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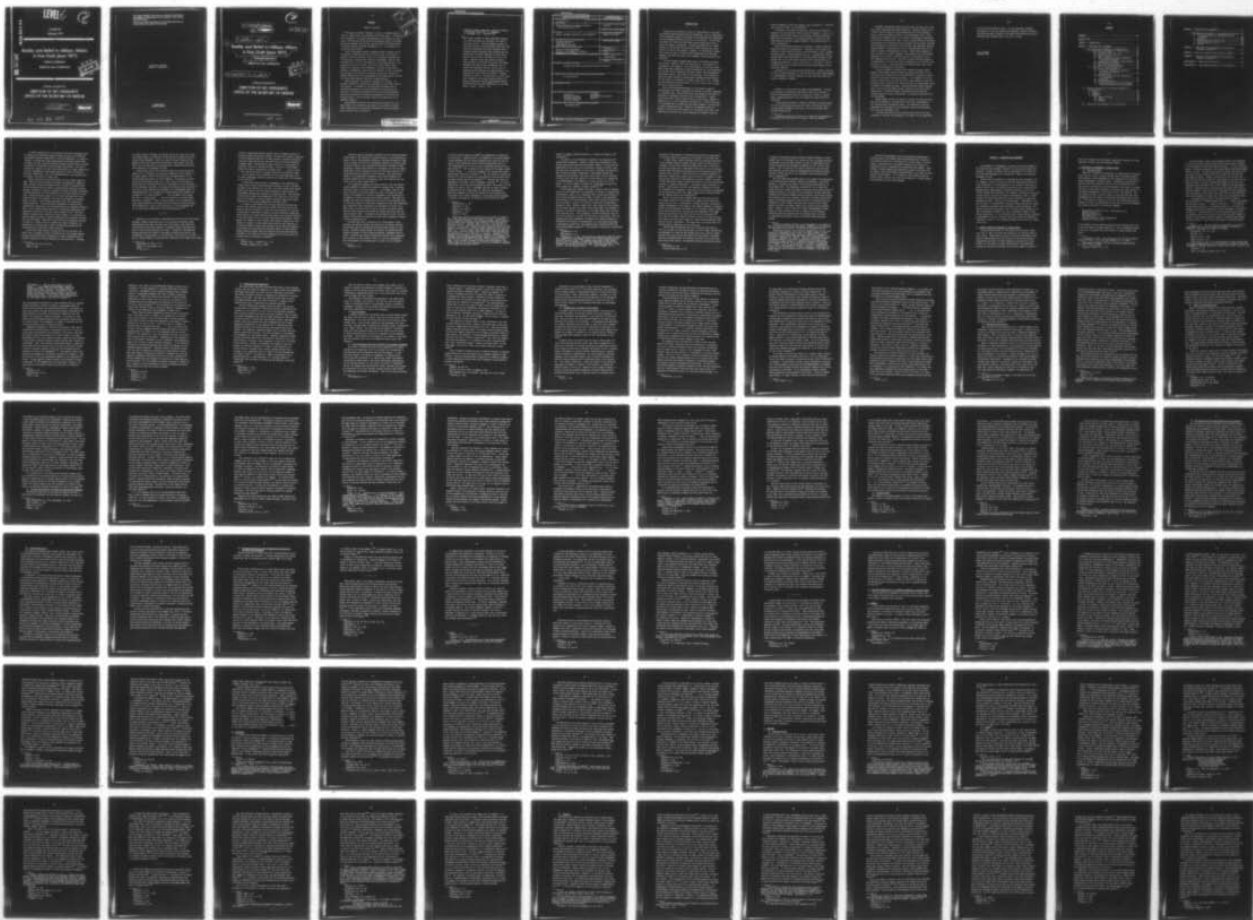
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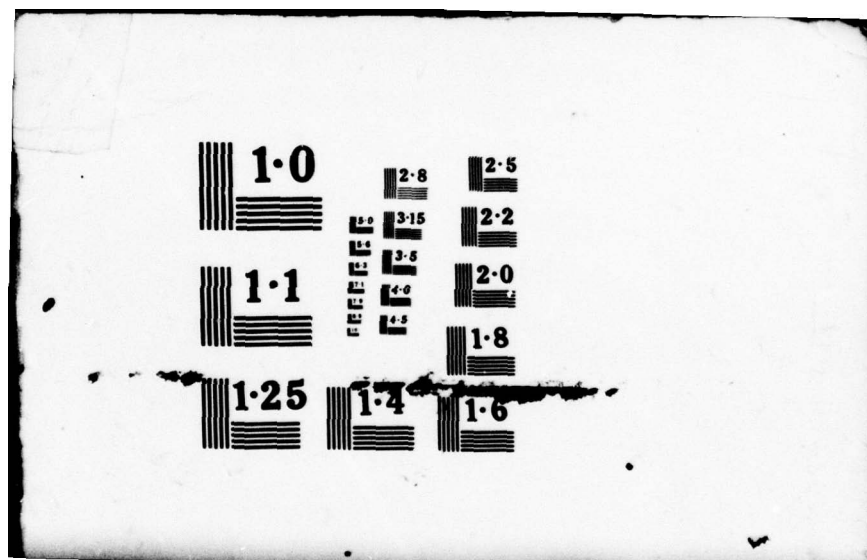
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Reality and Belief in Military Affairs: A First Draft (June 1977)

Herbert Goldhamer

(edited by Joan Goldhamer)

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FOREWORD

Andrew W. Marshall

This paper by Herbert Goldhamer is part of a program, begun in 1974, of studies about the perception of military power. The objective of the program is to improve understanding of such matters as deterrence, the day-to-day political and psychological impact of military forces and programs, and the use, particularly the non-fighting use, of military forces, programs, deployments, etc., in periods of political-military crisis.

From the beginning, Herbert Goldhamer played a leading role in the program, producing some of the very best work. He was also a source of wise and practical advice on how perception problems and related policy considerations could best be managed. When he died in August 1977, he was in the middle of a book-length project. The pages that follow are a draft of the first three chapters and a record of the sources he was examining. The plan of the study is parallel to Goldhamer's recent book, *The Adviser*, in that it analyses the writings of the past and the present and of East and West in seeking insights into the psychological and political impact of military forces and programs, especially during peacetime.

While incomplete, the study is valuable as it stands. It presents Goldhamer's insights and conclusions at this early stage of his research. It supplies an intellectually satisfying way of structuring analysis of the way assessments, or more casual perceptions, of the military capabilities of other nations influence the political behavior and military preparations of political and military elites. And it provides a basis for further work on an important problem.

Had Goldhamer's plan for this research been carried out, the study would in all likelihood have gone on for another two years. After reading what he had already accomplished, one deeply regrets that he did not live to finish it.

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↘ This report consists of three unfinished chapters of a book the author was writing at the time of his death in 1977. The discrepancies between reality and belief in military affairs which have had decisive consequences on events throughout man's recorded history--although often observed and commented upon by military analysts and historians--are here for the first time made the focus of inquiry. Drawing on past and present writings of East and West to illustrate his points, the author discusses the factors and circumstances that influence the assessment process, and the role of manipulation and deception in shaping images of the enemy and the self in military affairs. Primary attention is given to the peacetime or pre-war cases that illuminate the relation between military realities and military beliefs. ↙ Appendixes contain additional data for unwritten portions of the manuscript. Biblio. 196 pp. (JG)

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EDITOR'S NOTE

The paper you are about to read is a first draft of a work that the author's death prevented him from completing. As in a rough sketch for an unpainted portrait, the subject can be discerned but significant lines are missing and details are yet to be filled in. In this case, the reader will find three unfinished chapters which must serve to convey the author's intentions. The data presented are but a small portion of the material the author had already analyzed and a mere fraction of what he had planned to examine. It need hardly be added that, given the time, the author would undoubtedly have made many changes, both small and large, as he expanded, revised and honed the manuscript.

The first chapter probably makes most of the points the author had in mind. Chapter 2 lacks its final section. And Chapter 3 is incomplete in two respects: the existing draft of the first section was to have been fleshed out by data analyzed but not yet incorporated in the text; and two additional sections, "Means" and "Consequences," were never written. There was also to have been a final chapter in which the author planned to discuss major findings and draw lessons for the conduct of government in today's world (see p. 10). Material for these unwritten portions exists, if at all, only as raw or coded data in the author's files.

Most of the unincorporated data is in the form of notes or extracts which the author classified as relevant to specific categories in a detailed code. Some of these notes were marked by the author as pertinent to particular sections of the existing draft. Usually, these items offer further illustrations of a given point, amplify or qualify it or, in a few instances, contradict it. In the latter case, it is probably safe to assume that the author planned to use the item to make an additional point. There was one additional note for Chapter 1 and that has been inserted as a footnote to the text. The additional notes which the author designated for Chapter 2 will be

found in Appendix A; those for Chapter 3 are in Appendix C. Footnotes will direct the reader to this material.*

In addition, the author had selected a group of notes that he planned to use in writing the final section of Chapter 2. Since it is impossible to know what points or conclusions the author would have drawn from this material, it was decided simply to present all the items under the relevant category headings. This material will be found in Appendix B.

While some awkward sentences were revised, no drastic editorial changes were made in the manuscript. "Editing" in this respect was confined to small stylistic matters, correcting minor errors, filling in missing dates, cross-references and so on. Although this limited approach may in some spots make for less than smooth reading, it was thought best not to risk distorting the author's intentions by rearranging his material. This is, after all, a first draft. All the references have been verified and the necessary bibliographic information was compiled.

References in the text have been abbreviated. Complete citations for all the works referred to in the text will be found in Bibliography A. Bibliography B contains citations of other works the author consulted or planned to examine.

* * * * *

Usually, it is the author who makes acknowledgements. In view of the special circumstances under which I came to be involved as editor in preparing this paper for circulation, however, I hope my need to express gratitude to all the people who helped me will be understood.

I am profoundly grateful to Andrew W. Marshall and Charles Wolf, Jr. for the opportunity they gave me to play a useful role in preserving Herbert Goldhamer's last work, and for the support they provided along the way.

* Footnotes inserted by the editor are signalled by asterisks to distinguish them from those of the author, which are numbered.

Although I had worked closely with the author for many years, this was a task I undertook with some trepidation. Military history is not a field I feel at home in, and the author was not in his customary place to direct and guide my efforts. Many questions of fact, interpretation and judgment arose in the course of preparing the manuscript, and for help in dealing with them I turned to Andrew Marshall and Nathan Leites whose close association with the author over many years and whose many discussions of this project with him made them invaluable advisers. Andrew Marshall in particular was able to make meaningful many of the author's cryptic bibliographical jottings. Nathan Leites brought to bear his skills in several languages, his matchless logic and intimate knowledge of the author's intellectual bent in settling what for me were ambiguities in the text. They both reviewed editorial changes in the manuscript to see that the author's meaning was not violated in the interest of style. I would have been lost without their help, which they gave with generosity and patience.

I am much indebted to Barbara Quint, Ramona Villasenor, Michi Eejima, Cathy Yukawa, Marjorie Behrens and Reggie Van Driest of the Rand Library who helped me track down references no matter how elusive, and did so with grace and much good humor. I am indebted also to my brother, Hubert Doris, who took time from a busy schedule to read the manuscript with a sharp eye for such detractions as misspellings, errors of grammar and awkward phrasings. Marianne Marschak helped transform what to me were unintelligible German references into proper bibliographic form. And Beverly Kluger, Geraldine Moyle and Ann Vidor leavened greatly by their participation, the normally burdensome chore of proofreading.

Twylah Lawson, who was the author's secretary for many years and who started working on the study when he did, gave unstintingly of her time and expert secretarial skills. Her familiarity with the manuscript was invaluable, but her personal concern and involvement were even more meaningful to me.

In spite of my efforts to be accurate and in spite of all the assistance I received, my knowledge of the subject is too superficial

for me to have avoided all error. For any oversights, mistakes and blunders, I can only plead my own ignorance, express my regrets, and offer apologies on behalf of the author whose presence would undoubtedly have prevented most, if not all, of them.

Joan Goldhamer
December 1978

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CHAPTER 1 - INTRODUCTION

In the mid-fifties and early sixties, large sectors of the world population believed that the Soviet Union was the greatest military power in the world and had outstripped the United States in strategic as well as conventional capabilities. This belief, particularly evident in the Third World, was shared by relatively well-educated and well-informed European populations. In France, for example, polls of 1963, 1964 and 1965 attributed greater nuclear strength to the Soviets than to the United States. After its Apollo successes in 1968 and 1969, however, the U.S. was viewed by the same populations as by far the leading nuclear power.¹ Thus, both in the Third World and in parts of Western Europe, greater nuclear strength was assigned to the Soviets precisely at a time of great U.S. superiority, and conversely, in 1971, after the Soviets had taken the lead in number of ICBMs and had greatly increased their strategic strength relative to the United States, the U.S. was thought to have markedly exceeded the Soviets in the strategic field. The tendency for beliefs to deviate from or even be the reverse of reality, although most evident in mass opinion, is found also in important political, economic, and military elites.²

The years of Nazi ascendancy in Germany and in Europe provide a whole series of instances in which European political and military elites and masses held beliefs not in accord with the military realities. We shall examine these more closely later. Here we need only note that after General von Seeckt's retirement in 1926 he was able to impress some sectors of European opinion with the view that the German mini-army of 100,000 men authorized by the Versailles Treaty,

¹"French Public Opinion on Some Military and Political Issues," United States Information Agency, R-20-72, April 18, 1972, Table 9, p. 14.

²We will have occasion later to discuss both the causes and consequences of this and other cases in which belief deviated from reality. Here we wish only to provide several illustrations in order to establish the nature of our principal theme--the relation between military reality and military beliefs.

because of its doctrines, training, personnel and maneuverability, was superior to the French Goliath.³ In 1936, when Hitler marched three battalions into the Rhineland, German reputation and political aggressiveness made it possible for French intelligence to overestimate the invasion force by a factor of 100, an estimate larger than the entire German army. British intelligence was more accurate: it overestimated the German invasion army "only" by a factor of ten.⁴ There were probably some domestic incentives, especially the desire to make counter-action seem dangerous, for these fantastically incorrect estimates, but an underlying disposition to accept Nazi claims was conducive to acceptance of such intelligence estimates.

During the late thirties, aided by the Spanish Civil War (especially Guernica), the Nazis convinced many sectors of European military as well as civilian opinion that German planes were in a position to destroy French and British cities, industries and urban populations. The Nazis had, in fact, made not inconsiderable progress in tactical aircraft, but it was precisely their strategic air capabilities that were deficient and remained so well after war broke out. It was this alleged but non-existent capacity to wipe out European cities that the Nazis took special care to impress on many sectors of European and world opinion.

Although the last half of the nineteenth century saw a plethora of bilateral conflicts, the factors affecting military prowess as perceived by European statesmen were sufficiently balanced to reduce incentives for a new general European conflict. These perceptions were, on the whole, correct, and the long stalemate of World War I accurately reflected this. Unfortunately, the nineteenth century perceptions of a secure European balance gave way after the turn of the century to new perceptions--not in fact justified by the military realities--that suggested the feasibility of shattering the balance and establishing a new power structure.⁵

³Mysyrowicz, p. 228.

⁴Mason, pp. 208-210.

⁵Watt, p. 59.

In 1870, misperceptions of the military realities encouraged France to plunge into an adventure against Prussia that was not justified by the relative military capabilities of the two antagonists. It would be incorrect to assume that these misperceptions inevitably doomed France to defeat, but they certainly provoked strategic decisions that a clearer perception of the military situation might have averted. The Franco-Prussian War reminds us further that misperceptions of enemy capabilities are often accompanied by gross misperceptions of one's own military-political capabilities. The latter misperceptions, less excusable than the former, often play the larger role.

Reality and belief in military affairs are by no means always at odds. When the Swiss Confederacy defeated the Hapsburgs at Sempach in 1386, the Swiss acquired throughout Europe a military reputation that was fully deserved and was based on sound military practices--vigorous physical training for children, compulsory military training for peasants, townsmen and nobles, and the availability in each man's home of his own arms. European military respect for the Swiss was reinforced in the fifteenth century by Confederate victories over Burgundy at Grandson, Morat, and Nancy. But military assessments often last longer than reality justifies. The high European assessments of Swiss military capabilities continued into the seventeenth and even eighteenth centuries when, in fact, Swiss military practices, training and organization had completely deteriorated from their earlier Spartan level,⁶ and Swiss military competency and capabilities rested largely on the military experience gained by bodies of Swiss mercenaries whose principal interests were pay and plunder. World War I and World War II stimulated the Swiss to revive, by a whole series of reforms and defensive measures, the reputation of an earlier age in order to discourage attempts by the warring parties to encroach on Swiss territory.

In the first great conflict between the West and the East, the Greek, that is Athenian, victory at Marathon over the Persians induced in Greek political-military assessments a totally unjustified and unrealistic appraisal of Persian capabilities and intentions.⁷ Although

⁶Gilliard, pp. 25, 30, 52-53.

⁷Burn, p. 256.

the Greek victory at Salamis over Xerxes' forces ten years later ended the Persian threat, the salvation of the West was certainly not due to correct Greek assessment. Had it not been for Darius' death and the Egyptian revolt that distracted the Persians, Greece might have paid dearly for its long delay in recognizing the continuing Persian threat and consequently in enlarging its fleet.

Within Greece itself, the relatively small area involved and the higher level of linguistic and cultural uniformity did not prevent, as one might suppose, Greek city-states from a misappreciation of the military-political posture of their neighbors. The Spartans, as their allies the Corinthians pointed out to them, "have little perception, having never yet considered what sort of antagonist you will encounter in the Athenians, how widely, how absolutely different from yourselves."⁸ This was in effect admitted by Archidamus, the Lacedaemonian king, who acknowledged that "in a struggle with Peloponnesians and neighbors our strength is of the same character . . . But a struggle with a people who live in a distant land . . . what can justify us in rashly beginning such a struggle?"⁹ Thus, in ancient Greece, the one hundred air miles separating Sparta and Athens was cause enough for King Archidamus and his Spartans "to have little perception," as the Corinthians put it, of their future antagonists in the Peloponnesian war.¹⁰

* * * * *

Observation of the frequent discrepancies between the real and supposed strategic interwar situations, and of the enormous consequences these misperceptions have had on national and world history, have naturally led military and political leaders to recognize certain principles that seem to follow rather naturally from them. In addition, discrepancies between perception and reality in intrawar situations and tactical confrontations, or with respect to the performance characteristics or existence of certain weapons or other military capabilities have added their weight

⁸Thucydides (1.3.70), p. 40.

⁹Ibid. (1.3.7,8,79,80), p. 46.

¹⁰Starr, p. 3.

as well in impressing military leaders with the frequent variance of military opinion and military reality. We shall find reasons, especially in earlier military history, to attend closely to intrawar perceptions since they often had much the same character as interwar perceptions in modern times. Nonetheless our major interest is in perception in peacetime, that is, in interwar periods. In this we follow Hobbes' dictum that "Warre consisteth not in Battel only . . . but in a tract of time, wherein the Will to contend by Battel is sufficiently known . . . So the nature of War consisteth not in actuall fighting; but in the known disposition thereto, during all the time there is no assurance to the contrary."¹¹

A first theme that obviously is suggested by the foregoing and similar cases is that military-political behavior is often a function of images of the enemy and of the self, that these images often deviate widely from reality, and that these deviations in many instances do considerable although not necessarily irreparable harm. This harm may be particularly great when perceptions of the enemy and of one's own forces are confined to a narrow range of military assets that ignore important but less visible dimensions of military power.

It seems so self-evident that military-political decisions are based on what military and political leaders *think* the state of the world is and not necessarily on what that state actually *is*, that one is surprised to find modern students of war and deterrence conducting their studies as if these decisions were based on the existing realities at the time rather than on how these realities were perceived. Quincy Wright, for example, in his *A Study of War* sought to predict the likelihood of a balance of power being stable from the *real* disparity in the military power of the nations involved and not from the disparity as perceived by the military and political leaders of these nations. Wright evidently assumed that real disparity and perceived disparity coincided, a view that our earlier examples and the entire history of military affairs continually contradict.¹²

¹¹Hobbes (Part I, Chapter 13), p. 64.

¹²Wright, Appendix 29, p. 1389.

Similarly, Naroll, Bullough, and Naroll in their ambitious quantitative study of the relation of military prowess to the probability of going to war or being deterred therefrom, correlate decisions to fight or not to fight, not with the contemporary appraisal of military capabilities as made by the political-military actors involved in these decisions, no doubt often difficult to determine, but with the assessments made by *later* historians of what the real power status of the nations had been as revealed by later research. Here again there seems to be an unexpressed assumption that either perceptions of military capabilities are irrelevant or that they coincide with the actual state of these capabilities.¹³

It is generally assumed, and quite correctly, that the military forces available to nations have played an enormous role in shaping political as well as military history. It is evident, however, that until such time as they are brought into play, the effect of these forces on the behavior of nations is dependent on the perceptions or assessment of them by political and military leaders. When they are brought into play, the consequences of the real as distinguished from the perceived balance of forces show themselves--or *may* show themselves--*may*, because the prior perceptions and assessments of forces can so affect their utilization that it may be the prior perception rather than the actual balance that determines success and failure when the forces actually clash. In addition, even during war itself, the perception of the forces as distinct from the forces themselves continues to play an important role.

A *second* theme that is implied by our illustrations is that political and military leaders will surely try to extract political and military gains by shaping and exploiting enemy opinion of their forces. Military history abounds in instances of manipulation and deception intended to affect enemy perceptions, assessments and behavior. Military and political leaders and analysts have recognized this process as a major aspect of the art of war and consequently have distinguished, as did Machiavelli, between the *real strength*

¹³Naroll, p. 17.

of a force and its *reputed strength*¹⁴ and emphasized the importance of the latter.* Napoleon was not only emphatic in his pronouncements on this principle but his military-administrative practices and his orders to his subordinates show an intense preoccupation with it.

"The reputation of one's arms in war is everything and equivalent to real forces."¹⁵ "All is opinion in war, opinion of the enemy, opinion of one's troops . . . In war all is mental, and the mind and opinion make up more than half of reality."¹⁶ "War is a matter of opinion and the art of it was to preserve the opinion which he had acquired after the great success that he had obtained."¹⁷ "One must not leave any advantage to the enemy, even an advantage of opinion."¹⁸ All this is implied also in the much quoted Napoleonic maxim, "The moral is to the physical as three to one," a statement that was not meant literally by Napoleon who had a high regard for numerical preponderance.

Napoleon's emphasis on opinion and reputation would probably have been shared by his older contemporary, the Russian general Alexander V. Suvorov, who sought by the boldness of his actions, even when

¹⁴ Machiavelli, p. 751.

¹⁵ Napoleon, p. 214.

¹⁶ Henry, pp. 136-137.

¹⁷ Napoleon, p. 460.

¹⁸ Ibid., p. 110.

* [The author marked the following note as relevant to Chapter 1. (Ed.)] "*The political and military value of forces*: Luttwak says, 'This fundamental difference, the difference between *force* and *power*, has only been clearly analyzed quite recently in the literature of political science.' (Luttwak, 1976, pp. 23-24.) This may well be true but it is also worth noting that while political science may have lagged in dealing with it, military leaders themselves were very much aware of it. One of the more interesting maxims of Napoleon was precisely that in military affairs more than half of what was important was perceptions or, as he would put it, opinions. Similarly, if one examines the procurement, the strategic planning and the execution of strategic plans by outstanding military leaders, it is perfectly evident that this distinction is very much in the forefront of their minds. Also, in their writings the same distinction appears, even though it may not be, any more than in the case of Napoleon, expressed in the jargon of political science."

placed in a greatly inferior position, to convince the enemy of his superiority.¹⁹

The opinion to be cultivated or inspired in the enemy does not always involve deception. Indeed, in some cases intimidation or deterrence may require political and military leaders to ensure that the enemy know the real facts of the situation, provided of course, that the real facts are favorable to one's side. Kissinger has pointed out that "Secretary Acheson's definition of containment implied that strength was self-evident, that power would supply its own rationale. It did not deal with the question of how the position of strength was to be demonstrated in the absence of a direct attack on us or our allies. It did not supply a doctrine for translating our power into policy except as a response to Soviet initiative."²⁰

A *third* theme that emerges from even a cursory review of military history is that awareness of the importance of opinion, of manipulation and deception, leads to the recognition that the size and structure of one's forces and weapons need not always be based on the operational effectiveness of forces and weapons, where their operational effectiveness is defined in terms of the military capabilities conventionally assigned to them. Military leaders have long recognized this principle and introduced elements into their forces whose impact was intended to operate on the mind or expectations of the enemy rather than to affect their material force. They recognized, as does Ecclesiastes, that the race is not always to the swift nor the battle to the strong. When the arquebuse was first introduced, its almost total ineffectiveness as a firearm did not preclude its appreciation as a terrorizing instrument. As Machiavelli pointed out, the arquebuse was an excellent weapon for terrorizing ignorant peasants.²¹ The principle of ignoring or sacrificing

¹⁹ Longworth, p. 27.

²⁰ Kissinger, p. 41.

²¹ Machiavelli, p. 788. This opinion was apparently shared by Luther whose opposition to the peasant revolts of the early sixteenth century led him to write in 1525: "The peasants have straw in their heads . . . that is why it is necessary to make them understand the whip and the arquebuse that is made to order for them. Pray that they obey. If not, no pity. *Let the arquebuse speak . . .*" Cited by Engels, p. 74.

operational effectiveness as conventionally defined for psychological or political impact has continued to be applied to the present day.

A *fourth* theme, readily inferable from the continuing observation of the frequent disparity between military reality and military perceptions, was that those disparities might permit wars or battles to be entirely avoided--or at least permit their costs to be very sharply reduced--while nonetheless achieving the political-military gains that national policy pursued. This principle was especially important in ages when a single battle might settle the fate of a kingdom or a dukedom and when therefore it was desirable--to astute leaders--to pursue national objectives without staking everything on the often unpredictable outcome of a single confrontation. The Spartan admiral Lysander, in 404 B.C., exploiting to the full the surprise he achieved by lulling the Athenians into negligence, issued forth with his ships at Aegospotami in the Dardanelles; and in that single battle both the Athenian fleet and the Athenian empire were annihilated.²²

Even in the great wars of modern times the sense that the fate of an entire nation could be settled in a single, brief military encounter was not lost. In World War I, Winston Churchill, conscious of Britain's dependence on food imports, and perhaps reminded of Lysander's action in the Dardanelles, initiated to cut off Athens' supply of grain by the Pontic grain fleet, observed that the commander of the Grand Fleet was the only man "who could lose the war in an afternoon."²³ Such risks have taught lessons of caution so that in all ages military forces have often been used primarily to induce desired behavior rather than as military instruments. This lesson has, as we shall later see, acquired special importance in the nuclear age.

A *fifth* theme that emerges from our illustrative materials is that the processes by which nations make, or fail to make, observations and assessments of their own and foreign forces are a matter of major interest since they underlie and explain the perceptions, the misperceptions and opportunities for deception that occur at both the strategic and tactical levels. The perception process has recently become

²² Spaulding, p. 66.

²³ Cited by Montross, p. 713.

an object of intensified study by military analysts because it is now evident that it is important for a nation not only to assess accurately the military forces of other nations, but also to understand the perception process and the assessment procedures of one's own and other nations. Only in this way can a nation's leaders be sure that they will appraise correctly their own assessments and understand foreign opinions of them, as well as the assessments these foreign nations make of themselves.²⁴

The five themes distinguished above do not exhaust the implications of the military reality-military opinion relationships. They serve, however, to introduce the reader to the principal preoccupations of the present study. The subsequent chapters will try to throw into relief variants of these five themes in military and political history.²⁵ Primary attention will be given to the peacetime or pre-war cases that illuminate the relation between military realities and military beliefs. Some wartime cases are of interest, especially in earlier periods when aspects of military preparation that now occur in peacetime with the eventuality of war in mind, took place when a state of war already existed, and have a strategic rather than a purely tactical significance. Finally, I hope to show how a fuller understanding of these themes and their variants can serve to improve our own military-political practices, especially at the strategic level, and help us understand and respond to those of the Soviet Union and other nations.

²⁴ Andrew W. Marshall, Director of Net Assessment in the Office of the U.S. Secretary of Defense, has played a leading role in initiating and stimulating studies of the perception and assessment process.

²⁵ Clausewitz believed that historical examples were the best kind of proof in discussing the art of war. He warned, however, of the difficulty of evaluating events correctly, especially in examples from ancient history where important details are often missing or are incorrect. Clausewitz, pp. 170-174. The very considerable reliance on secondary works in this study, necessitated by its wide scope, increases the danger of error. As Nietzsche observed, the historian is privileged to do what is even denied to the gods--to change the past. Since in most instances the type of events or relationships I point out are illustrated by a number of examples, I hope that the damage done by errors by myself or by the historians I cite, will not be too great.

Anyone who has glanced at even an introductory bibliography of military history will realize that my discussions must be based on a very limited selection of *illustrations* of various types of relevant events, a selection that I can hardly defend as free from bias or sufficient in size to establish the propositions they suggest. Nonetheless, if these examples and propositions interest the reader and are shown to have some relevance and plausibility, the study will have served its main purpose. If, in addition, they stimulate more intensive study of some of the topics that compose it, a second purpose and aspiration will have been realized.

CHAPTER 2 - PERCEPTION AND ASSESSMENT

The agreement or disagreement of opinion with reality depends on the perception and assessment activities of those whose opinions are involved. We begin, therefore, with an examination of the fifth and last theme distinguished in the Introduction, namely the perception-assessment process.

The two terms "perception" (or observation) and "assessment" are not intended to reflect a clear-cut and well-established distinction. I use "perception" to refer primarily to the "passive" observation of military forces that is virtually forced upon one by foreign military demonstrations, announcements, battlefield experience, and to the "active" observations involved in, for example, intelligence activities, attaché reports, articles by military correspondents, that is, observations of foreign forces made with intent, especially in peacetime, and generally with a fairly well defined purpose. "Assessment" I use more to refer to the evaluation of multiple observations and the search for conclusions concerning enemy intentions, grand strategical, strategical and tactical doctrines, order of battle, morale, weaponry, etc. that are generally inferable only from a substantial number of individual observations. It is not always easy to decide whether perception or assessment is the more relevant term, but provided the underlying reference is clear it is not important whether we have used the "right" term or not.

I. FACTORS AFFECTING ASSESSMENT OF FOREIGN FORCES

Strong incentives exist for the political and military leaders of a state to learn the nature and strength of the military forces of other states. Today there is scarcely a military establishment that does not maintain some watch on the forces of actual and potential antagonists and allies. We shall examine the incentives for this shortly, but they have not always been operative, and substantial motives have existed for military and political leaders to ignore or

show little interest in the strength, composition, weaponry and other qualities of their actual and potential enemies.

A. RESTRAINTS ON ASSESSMENT OF FOREIGN FORCES

(1) The Heroic Ethic

When war is viewed as an opportunity to achieve glory and lasting fame,¹ and as a test of courage, heroism, honor and fighting skills, the incentive to seek advantages by prior observation of the enemy is greatly diminished or entirely erased. Advantages so derived may reduce the honor that stems from victory and are inconsistent with a view of war as an exercise on the battlefield of the warrior's courage and skill, or with those principles of chivalry that apply equally in the jousting tournament or in pursuit of one's ideal ladylove. But well before the age of chivalry a sense of honor and fair play often recommended that the enemy be provided with advantages equal to one's own. At the battle of Maldon, in A.D. 991, the Vikings requested permission to cross a ford unmolested in order then to attack the English. The request was granted by the English commander.

The ground is cleared for you: come quickly to us,
gather to battle . . .
Then neared the fight,
the *glory* trial . . .
So they stood fast, those stout-hearted
warriors at the *war play* . . .²

In his *Germania*, Tacitus observed that men often survived battle only to end their shame by hanging themselves.³ In the contemporary period it is only a few generals who feel required to commit suicide after defeat.

¹In *Beowulf*, we read: "Let him who can, win fame before death," *Beowulf* (21.1383), p. 60. [See also Appendix A, n. 1. (Ed.)]

²"The Battle of Maldon" (92-138), *The Earliest English Poems*, pp. 116-117 (*italics added*).

³Tacitus, *Germany* (6), p. 712.

In ancient Greece, that is in the Homeric period, the likelihood of victory or defeat in wars and battles was often thought to depend on the existence of heroes like Ajax and Achilles.⁴ In the fourteenth century, Ibn Khaldun pointed out that having famous heroes may determine victory or defeat. He quoted the opinion of another Arab writer that the side with ten or twenty heroes will prevail over the side with only eight or sixteen. Indeed, a side that has even one hero more than the other will be victorious.⁵ High regard for the hero and the pursuit of glory in battle are sometimes thought to have been subordinated in the post-heroic age to the struggle of one mass against another.⁶ Certainly this did not mean that the heroic ethic had entirely succumbed. Arrian's account of Alexander the Great emphasized that "his passion was for glory only, and in that he was insatiable."⁷ "Such was his passion for glory that he had not the strength of mind . . . to consider his own safety; the sheer pleasure of battle . . . was irresistible."⁸ Alexander himself said ". . . hardship and danger are the price of glory . . . sweet is the savour . . . of deathless renown beyond the grave."⁹ In republican Rome, too, the political struggle for military leadership was a major instrument in the search for glory.¹⁰ The heroic ethic of Greek and Roman military leaders was shared by many of their troops, and Arrian and Caesar report instances in which common soldiers competed in hazardous undertakings to achieve glory.¹¹ That the hero striving for "deathless renown"

⁴ Adcock, p. 2. The wise counselor, like Nestor, was also much appreciated, and his use of cunning and deception required more attention to the enemy forces (see p. 32 below).

⁵ Ibn Khaldun, vol. 2., p. 87.

⁶ Adcock, p. 2.

⁷ Arrian (7.28), p. 395.

⁸ Ibid. (6.13), p. 319.

⁹ Ibid. (5.26), p. 294. It is characteristic of early warfare that when Darius strengthened part of his line with a stockade, it signified to Alexander's men that Darius was a craven spirit, Ibid. (2.10), p. 118.

¹⁰ Caesar, p. 10.

¹¹ See, for example, Arrian (1.21), p. 86.

may be rewarded with it is suggested by the fact that Alexander the Great is today a prominent figure in Central Asian folklore.¹² When Alan Moorehead was pursuing the trail of long-past British colonial adventures in Central Africa, a native in a desolate area confronted him with the cry, "Emin Pasha!" a name that had survived for almost three-quarters of a century without any memorial to sustain it.¹³

The concern with glory did not, in relatively sophisticated nations and armies, mean a total disregard of observation and assessment, but the persistence of elements of the heroic ethic almost certainly reduced the importance attached to them.

In early ages it was not unknown for armies to inform each other of an agreeable time and place to engage in battle.¹⁴ While such a practice does not preclude an interest in intelligence concerning enemy characteristics, it is hardly conducive to active observation and assessment.

China, in the earliest period for which we have useful information, the period of the Spring and Autumn Annals (722-481 B.C.), shows a constant preoccupation with a chivalric ethic that produces incidents similar to the confrontation at Maldon. A general, despite protests of his subordinates, refuses to attack his enemy while they are fording a river. Other Chinese generals showed equal concern for similar military proprieties. In this period, warfare was part of a system of rituals involving courtly challenges. Intelligence and assessment concentrated on the moral status of the enemy and his morale.¹⁵ But during the period of the Warring States (403-221 B.C.) there was a tendency to disesteem heroism and violence, not to glorify it.¹⁶ Intelligence became much more inclusive and urgent.

¹²Krader, p. 75.

¹³Moorehead, p. 357. [Emin Pasha was Dr. Eduard Schnitzer, a German explorer, governor of Equatoria, 1878-1889 (Ed.)]

¹⁴Hentig, p. 35.

¹⁵Kierman, p. 28.

¹⁶Fairbank, p. 25.

The age of chivalry and of the mounted knight was equally an age when fame in battle was sought, when it was unthinkable for a knight to desert, and when it was thought not to be knightly to take advantage of the treachery of an enemy.¹⁷ Evidently here, too, the conception of war and of battle hardly provided strong incentives for the careful observation of enemy capabilities, although it did not exclude an interest in foreign and enemy knights who shared the same knightly code. Attention to and interest in the enemy was especially focused on his reputation for chivalry and bravery in battle. That is, perception of the enemy was very much dictated by the criteria relevant to one's own self-perception and self-evaluation.¹⁸

The thirst for personal glory continued into modern times. Speaking of the post-World War I Bedouins, Lieutenant-General Sir John Glubb wrote: "He was avid of praise and his passion was self glorification . . . even his loyalty to his tribe occupied less of his thoughts than did his own fame and dignity . . . the most important object of his warlike actions was to draw attention to himself by performing startling exploits. He would therefore challenge the enemy to single combat or warn him of his intention to attack."¹⁹

An effect of the tradition of chivalry on European intelligence and assessment interests is inferable in the case of Poland and Russia. The anonymous Russian prince "K" in his discussions with the Marquis de Custine, as the latter was setting out in 1839 for Russia, pointed out:

¹⁷Norman, pp. 144-148. The tales of chivalry and knightly behavior in battle should not lead one to suppose that in the period to which they refer they represented in the knightly class a universal mode of behavior. Few stories of chivalry are complete without their knightly villains as well as their knightly heroes. A good deal of idealization of the knight existed both at the time knighthood was in flower and in subsequent years.

¹⁸We shall discuss this important principle in perception more fully below. In the age of chivalry a certain rivalry occurred. Saladin's behavior toward the crusaders became an incentive in the West to attain higher levels of chivalry, emulating him. Ibid.

¹⁹Glubb, p. 31.

The Russians . . . had not been brought up in that school . . . that shaped the chivalresque traditions of medieval Europe. They knew the concept neither of "honor" nor of "word of honor." The spread of that spirit of chivalry toward the East might be said to have stopped with Poland. The Poles had fought romantically--for the sake of glory. The Russians were also warriors--but they fought only for the sake of conquest.²⁰

This long-standing concentration on purely material goals in military activity may help to explain the equally long-standing mania for secrecy and surveillance that marks Russian history. The manner in which past customs, and past political and military organization and habits penetrate, even under very different conditions, into the present is certainly not clearly understood. But we may at least observe that the parallels between Tzarist and Soviet Russia, noted by so many writers, have suggested to a number of them that the historical continuity is also a causal continuity.

Elements and examples of the heroic and chivalric ethic can be found from the earliest times to the present day, but it is only in periods when they dominated the sentiments of the warrior class that they sharply reduced the incentive for careful study of the enemy. Marlborough and still later generals showed a regard for some elements of the chivalric tradition without thereby reducing their interest in intelligence. When, after Blenheim, Marlborough wanted to engage the French again but was required to go to the aid of the Dutch, he sent a letter of apology to Marshal Villars for his withdrawal and his inability to stick to his "engagement."²¹ The Japanese concern with national glory emerged in the Imperial Conference of December 1, 1941, when even one of the less enthusiastic members of the Conference declared: "At the moment our Empire stands at the threshold of glory or oblivion."²² The kamikaze fliers and the banzai charges of the later period of war equally reflect the durability of tradition.

²⁰Kennan, p. 43.

²¹Liddell Hart, p. 81.

²²Ike, p. 283.

Needless to say, this in no way diminished Japanese interest in intelligence or in other aspects of a rational direction of military activities. Contemporary Soviet military training reacts violently against a "widespread bourgeois view" that in modern, especially nuclear war, "there are no heroes only victims." Soviet training emphasizes the heroic ideal, not, of course, as the pursuit of individual glory but as heroism and self-sacrifice in the service of the party, state and nation.²³ The cultivation of this version of the heroic ethic obviously does not in any way indicate a diminution of interest in the observation and assessment of enemy forces.

Soviet Interior Service Regulations remind us that a particular form of the heroic ethic in warfare, the preservation of the unit color, still survives, but as one would expect in Soviet practice the motives of glory and honor are supported by the threat of severe penalties if the color is lost: "The unit colour is a symbol of military honour, gallantry and glory. . . ." But if the unit color is lost, the unit commander and his subordinates guilty of this disgraceful action are liable to be court-martialed and the unit disbanded.²⁴ The standard, or color, has embodied the honor of the unit from classical days to the present. Defending one's own standard or color to the death if necessary is an old tradition, and capturing an enemy color is often a richly rewarded achievement. At the battle of Culloden the victorious Royal Army paid soldiers 16 guineas for each Highland standard captured.²⁵ Napoleon showed a meticulous concern with the loss of standards and flags and in noting losses in battle gave exact figures concerning the number of standards lost, this information sometimes receiving priority over the loss of matériel.²⁶ Military headquarters still display with pride battle flags captured in past battles. But the tendency in previous centuries to assess, in part, degrees of victory and defeat in terms of standards and battle flags captured and lost has virtually vanished.

²³Ruban, pp. 25-32.

²⁴Aidarov, p. 42.

²⁵Prebble, p. 123.

²⁶Henry, p. 77.

(2) Superiority and Inferiority

The heroic ethic was often associated with pride in one's military virtues, and this often led enemies to be viewed as weak and contemptible. The Franks were notable for their sense of superiority as warriors. This hardly stimulated interest in studying the composition or tactical habits of the enemy. But when the Franks and Gauls came in contact with Roman military power, the lack of attention to Roman tactics gradually gave way to observation and sometimes imitation.

The more advanced and stronger powers may ignore the military characteristics of "primitive" tribes whose military capabilities are assumed to be as primitive as their culture and therefore negligible. Such attitudes existed in Africa in the early conflicts with the Mahdi, who quickly disabused Gordon and his London superiors of their notions of quick victory;²⁷ in India and the Northwest frontier when again English troops soon learned that their opponents were by no means negligible "primitives"; in the American War of Independence when Burgoyne and many of his fellow officers anticipated easy victory against a few irregular, undrilled farmers; and in the Boer War when similar expectations occurred. The early disregard of intelligence and assessment cost the English dearly. Mussolini apparently learned nothing from Adowa (1896) where King Menelik's Abyssinian army, with modern weapons, destroyed a much outnumbered Italian force of 20,000; he asserted that a handful of blackshirts was enough to inculcate respect in the Berber population of Libya, a view especially convenient because it enabled him to justify reducing Italian troop strength, an act that would show the "rebels" that the Italians were not afraid of them.²⁸ The glories of Roman and Renaissance Italy enabled Mussolini to treat Americans, too, as another group of "primitives" with the minds of children and the behavior of ants and termites.²⁹

²⁷ Moorehead, p. 219.

²⁸ Mack Smith, p. 37.

²⁹ Ibid., p. 28.

When the enemy is viewed as far stronger than oneself, the incentive to observe and assess may be equally weakened. Submission or flight are all that matters unless the heroic ethic leads to a suicidal confrontation, perhaps motivated, too, by the realization that in any case the enemy will show no mercy.

The disregard of perception and assessment of the enemy noted above is, of course, not complete. The very fact that the enemy is viewed as contemptibly weak or overpoweringly strong is already an assessment, although it may be derived from reputation and not from any actual observation or study of the antagonist.

(3) Lack of Contact

In earlier periods wars and battles often occurred between nations and tribes that had total or almost total lack of prior contact and communication. The first battle was often the first effective contact between them, so that pre-war observation and assessment were often precluded, although rumors concerning the opponent played a considerable role. Where, however, the confrontation was between a "primitive" group and a more advanced nation, the latter often took the trouble to obtain information about prospective opponents, as did Alexander and Caesar. Such behavior was contingent on the absence of the belief that the primitives were not too contemptibly weak to merit this attention.

(4) Lack of Military-Political Flexibility Discourages Assessment

Any motive to observe and assess enemy capabilities is largely inspired by the expectation that one can adapt one's preparation to take advantage of the information that has been gained. In some societies, however, the degree of flexibility in fighting style, tactics and even intentions is so limited that advance information concerning the enemy seems to have little operational significance, and the principal motive for the study of the enemy is undermined.* Both at the command level and among the troops, fighting often became so stereotyped in form that military leaders would not have derived much advantage from advance information. Thus, early linear formations

*See Appendix A, n. 2.

made it difficult for long lines of battle to maneuver other than in a straight advance. Marlborough sought to avoid this rigidity and trained sub-units to maneuver freely. Despite his example, the practice of sending long lines of troops into head-on collision to a considerable extent returned. Frederick the Great divided his battalions into ten platoons of 70 men each, and this enabled him to escape from the rigidity of his opponents.³⁰ His maneuverability enabled him to attack the enemy's weakest flank and consequently provided an incentive for information concerning the character of the troops in the different parts of the enemy formation. But even as late as Waterloo, Wellington could say of Napoleon that he "did not manoeuvre at all. He just moved forward in the old style, in columns, and was driven off in the old style."³¹

The rigidity of military habits is well illustrated in the case of North African Arab tactics--charge in disorderly mass, wheel about and retire, charge again and withdraw, and so on. When Arab military leaders observed the great impact of the more orderly European attack, they did not--indeed probably could not--change the military habits of their cohorts, and resorted to hiring European mercenaries to provide them with this type of military capability.³² More than five hundred years after Ibn Khaldun, T. E. Lawrence noted that a thousand Arabs were a mob, ineffective against a company of trained Turks. On the other hand, in the hills, three or four Arabs could stop a dozen Turks.³³

Lack of military flexibility may not diminish interest in studying enemy *intentions* to the same degree that it weakens interest in *capabilities*. But even intentions may be neglected if religious, dynastic, or other passions and motives limit one's responses to the political-military environment.

³⁰ Hughes, pp. 80, 94.

³¹ Letter of July 2, 1815, in Wragg, p. 226.

³² Ibn Khaldun, vol. 2, pp. 80-81. See also vol. 2, pp. 77-80.

³³ Lawrence, p. 136.

Even where, as in most modern states, military assessment of foreign forces is held to be of very great importance, this awareness does not always signify a corresponding degree of attention and effort in that direction. Peace, bureaucratic rigidity, the appeal of other aspects of military life, and the decentralization of the information gathering and decision-making machinery may, in practice, dull the edge of active response to the recognized importance of intelligence and assessment.

(5) Assuming That the Enemy Is Like Oneself

In earlier times, war was often waged against tribes from relatively distant areas, but war more readily occurs with neighbors. In this case, observation and assessment of the enemy will be relatively easy, and past battles will have provided images of the military and political proclivities of the opponent. But propinquity and membership in a common civilization may also induce a sense that one's neighbors are much like oneself and need little observation or assessment, an opinion by no means often justified. In the Greek world, generals calculated the strength of opponents on very limited data and tended to evaluate enemy plans largely in terms of their own methods of operation.³⁴

In modern times, the belief that the enemy is like oneself (at least in military matters) may derive from certain assumptions concerning the uniformity of military practices and capabilities arising from a common international technology and military culture, including certain instruments of rational military planning such as a general staff (or equivalent organizations), the use of maneuvers, military academies, and a relatively common stock of military knowledge contained in military manuals and in theoretical works on the military art. This reduces incentives to study some aspects of the enemy and encourages the tendency to impute to him interests, attitudes and behavior similar to one's own. Emphasis on the technical aspects of military culture may provide incentives to discover whether other nations have developed a new or superior weapon or introduced other

³⁴Starr, p. 40.

technical innovations, but may discourage the observation and perception of nuances in the enemy's tactical and doctrinal preferences and cultural, political and social tendencies that influence both his military intentions and his military behavior.

French preparations for World War II were based on an abstract, unreal image of Germany and its military features that corresponded poorly with the real nation and its military establishment. French doctrine assumed an adversary symmetrical in many respects with itself.³⁵ Despite an uneasy sentiment that communists, especially Bolsheviks or Russians, are in some way a different species, much U.S. and Western military analysis is predicated on observations and assessments based on the more or less common technological culture that we share with the Soviets, and on scenarios in which U.S. and Soviet military behavior are derived largely from a common system, imputed to both parties, of calculating strategy and tactics and their cost-benefit characteristics. U.S. scenarios certainly take account of differences in the order of battle of the two antagonists and their weaponry, and in some doctrinal and tactical characteristics stemming largely from an assumed Soviet offensive posture, but otherwise tend to treat Red and Blue as mirror images of each other.

The assumption that the enemy and we behave in much the same manner in military calculations (but not necessarily in intentions) has led us to ignore striking differences in strategic calculations. We are decidedly prone to ignore in our assessment of Soviet capabilities those that have little or no counterpart in our own strategic designs. The role of civil defense in Soviet calculations was until very recently largely ignored because we do not or cannot take civil defense seriously and therefore disregard in considerable measure such features in Soviet planning and calculations. We still do not view Soviet emphasis on physical training in civil life and on military-patriotic indoctrination in both military and civilian life to be significant differences between U.S. and Soviet grand strategy. On

³⁵Mysyrowicz, pp. 73-75.

the other hand, U.S. military and civilian analysts have become increasingly conscious of a variety of Soviet dispositions: for example, Soviet disinclination to retire aging weapons, thereby building up large inventories; their related preference for what is large and imposing (big bombs and missiles); and their disposition to be aggressive when they think themselves weak or inferior. There are also subtler features of Soviet behavior that receive attention from a few specialists but influence relatively little U.S. and Western perceptions.

The considerable attention given in 1976 to the availability of a MiG-25 for close examination by the United States is understandable. The knowledge so gained is very definite and clear-cut and has very ready applications to military tactics and to the assessment of Soviet technology. This, nonetheless, underscores the relative lack of interest in and observation and assessment of features of the Soviet military environment that are less exact in their specifications and less clear in their implications for U.S. and Western military behavior. Ignorance of or indifference to the relations of these vaguer features to less obvious dimensions of military power add to the difficulty in focusing attention on them. It is not surprising, then, that a military analyst affirms with confidence that "we shall therefore assume that, more than any other factor, it is arms technology that nowadays determines the character, not of this or that war but of war in general."³⁶

In wartime, faced with the reality of a concrete enemy, interest in broader aspects of his behavior may occur. This is especially true if the enemy is distant in place and culture; that is (relatively), a "stranger." In World War II we had a great outpouring of material, such as Ruth Benedict's *The Sword and the Chrysanthemum*, for example, that might have provided political and military leaders with a better appreciation of the enemy. It is questionable, however, whether General MacArthur availed himself of such works. It may be equally questionable, of course, whether if read they would have had any

³⁶ Van Creveld, p. ix.

useful effect on U.S. political-military behavior. It is likely that relatively low levels of the political-military establishment read and perhaps benefited from these works, but it is unlikely that they penetrated to the decision-making level.

Starr has noted how easily political-cultural differences affected the political-military assessment process in the classical world. "The events of the second century B.C. reflect the most terrible failure of Greek intelligence procedures . . . The Greeks could not comprehend that entirely different [Roman] world . . . nor, on the Roman side, were the generals and senators of the Republic able to grasp the sophisticated, shifting character of Greek politics. . . the meeting of Romans and Greeks, operating within systems of very different principles, suggests that in such a situation the usual patterns of gathering and assessing information must fail."³⁷ The Greeks had similar difficulties in the classical period in dealing with the Persians. Both Persians and Greeks were baffled by the customs and aims of the other. Starr's statement clearly has considerable relevance for past U.S. and Soviet perceptions and misperceptions of each other. Whether Arbatov and his Institute of Canadian and American Studies have helped to bring reality and belief concerning the United States in closer conjunction among Politburo members is a matter of conjecture. But surely in recent years U.S. academic, diplomatic, military and civilian defense department personnel have considerably narrowed--certainly not yet closed--the gap on the U.S. side.

The political and military leaders of a country and their top military staffs may be largely insensitive to their own characteristics and peculiarities and fail to appreciate that this affects their understanding not only of themselves but also of their enemies and friends. Where psychological, cultural and political self-characteristics are not perceived, or if perceived not well understood, it is likely that this signifies an insensitivity that applies equally to the enemy. Lessons from past behavior, especially vis-à-vis enemies, are likely to be less easily assimilated where self-knowledge and self-criticism

³⁷ Starr, p. 48.

are lacking, and this failure to learn may become the basis of a diminished interest in some aspects of observation and assessment.³⁸ French cultural sensibilities and resistance to mechanization, for example, led sectors of the French military prior to World War II to depreciate German progress and doctrine in motorized warfare (see p. 27 below). U.S. tendencies to suppose that the norms of personal life apply to international life led some U.S. leaders to believe that Soviet aggressive behavior and talk signified capabilities or possibly intentions corresponding to them. Khrushchev's shoe-banging in the UN in 1960, a rudeness quite out of U.S. experience in international life, was viewed as having very special and mysterious significance and led to a meeting of President Eisenhower, Prime Ministers MacMillan and Menzies and their advisers.³⁹

(6) Professional Constraints

Small and poor countries generally have a limited number of professionally trained military observers and analysts. Attention to and interest in foreign forces other than those of immediate neighbors is quite limited. This is reflected also in civilian press commentary which often shows a rather marked misunderstanding of military realities unless more or less total dependence has been placed on foreign sources.

Where a substantial apparatus exists for the collection of military information, or where opportunities, particularly war, provide occasions for direct observations, the very plenitude of data may so overwhelm the intelligence services and the military-political command that effective assessment is not achieved. Indeed, assessment is not a procedure that arrives at plausible conclusions by some simple summation of individual observations. Assessment in the strategic and grand strategy areas requires a staff with a capacity for systematic, rigorous analysis based on a continuous study of the enemy, and at the same time a subtle juggling of so many bits of information that a very large measure of experience, judgment, and imagination are

³⁸ A further discussion of images of the enemy and of the self will be found on pp. 66-77.

³⁹ Goldhamer, 1977, p. 207.

required to arrive at conclusions of merit. Since these talents are not in overwhelming supply, and since, in any case, strongly held convictions and individual assessments may be dangerous to the individual's career, their true value being unprovable until perhaps a much later time, a very high level of intelligence gathering may co-exist with a low or mediocre level of military assessment. The high level of the former may obscure the inadequacy of the latter. In addition, first-rate assessments by lower levels of the political-military hierarchy often do not penetrate to the highest levels. Conservatism, sentiments of social superiority, political and economic interests may drastically affect assessments as they did in France, where military journals reacted not only against odious and barbarous words like "motorization" and "mechanization," but against the things themselves.⁴⁰ Political and economic interest in the big French farming sector secured for horses and cavalry a higher evaluation than otherwise would have been the case. Self-assessments may be equally deficient. In a relatively advanced military establishment, and with a major European war in progress, Mussolini, according to Ciano, could only learn the size of the Italian Air Force by having regional prefects make a visual count on military airfields.⁴¹ The same phenomenon may occur in the U.S. which is perhaps even more surprising. While the Air Force and Navy undoubtedly know how many aircraft and ships they have, some observers question whether the U.S. Army knows how many trucks and tanks it has.⁴²

Much professional military assessment, with the exception of the work of military attachés, is carried on without any direct contact or experience with the nation and military establishment being assessed. This is an unfortunate limitation since it often leads to the missing of cues and clues of first-rate importance. To be sure, those who steep themselves in enemy history, literature and contemporary sources

⁴⁰ Mysyrowicz, pp. 49-52.

⁴¹ Watt, p. 117.

⁴² Based on the results of interviews in 1966 with high level OSD officials. Private communication from Graham Allison and Andrew W. Marshall.

such as newspapers and political materials, may reduce this handicap. Private scholars are in this respect (and also with respect to direct contact) often in a better position than many military men. The private scholar, on the other hand, may be too ignorant of military affairs to cooperate adequately with military assessment personnel.

(7) Chance and Unpredictability

These two inveterate enemies of the careful observer, assessor and planner, have played an enormous role in military affairs--a role often not recognized today, or recognized only reluctantly. The ever-present likelihood that the unpredictable will occur may have two contrary effects--on the one hand, a feverish attempt to observe and plan so carefully that Fortuna has a narrower range of operation; on the other hand, a sense of the futility of excessive study and planning. The latter sentiment is reflected in Philippe de Commines' lack of confidence in military planning. This great adviser to Duke Charles of Burgundy and later to Louis XI wrote: "I think no man's wisdom can guide or give order to such a great number of men and that things in the field seldom turn out as they have been planned indoors."⁴³ For Commines, God often arranged things beyond the understanding of man. The rapid downfall of Duke Charles following a totally trivial and unpredictable occurrence at the battle of Grandson fortified him in this belief.

Caesar was certainly careful both to obtain necessary intelligence and to plan with care, but nonetheless he held that success and failure "depends on fortune, in war, as in all other things."⁴⁴ In the fourteenth century, Ibn Khaldun stressed that because of hidden causes it was not possible to predict a victory with certainty even though one had better and larger forces.⁴⁵ In 1683, a diarist with the Turkish forces before Vienna noted, after an unfortunate incident, "this case shows once more that even in a place where all human measures might seem to have been fully taken, fate cannot be avoided."⁴⁶

⁴³ Commines, pp. 73, 280-281.

⁴⁴ Caesar (6.9-10, 29), p. 169.

⁴⁵ Ibn Khaldun, vol. 2, pp. 85-86.

⁴⁶ Kreutel, p. 31.

Frederick the Great, one of the most confident and successful of the Great Captains, could nevertheless affirm that "the older one becomes, the more one is persuaded that His Sacred Majesty Chance does three-quarters of the work of this miserable Universe."⁴⁷ And still later the Duke of Wellington complained during the Peninsular War, of "the chances of war and chapter of accidents, which in these days are not allowed to be counted for anything . . ."⁴⁸ No doubt Wellington's failure to cut off Soult's retreat, because three English soldiers decided to rob a cherry tree and were captured, might well reinforce such views.⁴⁹ Wellington's great antagonist, Napoleon, had an equal respect for the intrusion of chance. The outcome of battle is always doubtful.⁵⁰ "Chance is the only lawful monarch of the universe."⁵¹ In light of these views it is easy to see why according to Napoleon "one rarely finds generals who are eager to give battle . . . nothing is more difficult and nonetheless more precious than to know how to come to a decision."⁵² Napoleon's other great antagonist, Nelson, shared Napoleon's and Wellington's respect for the unpredictable. "I have . . . the best-disposed fleet . . . but who can say what will be the event of a battle."⁵³ An outstanding Japanese naval air commander of World War II affirmed: "Combat experience teaches that it is always impossible to predict the outcome of battles, no matter how extensive the planning and preparation."⁵⁴ To what extent such sentiments affect the impulse to expend great energy on observation and assessment is not easy to say, but it is likely that some commanders share the strong feeling of Commynes and are inclined to "take their chances" without a great expenditure of resources and time in assessing and planning. No doubt Demosthenes had a point when he said that there

⁴⁷ Spengler, vol. 1, p. 142n.

⁴⁸ Letter of June 11, 1810, in Wragg, p. 204.

⁴⁹ Stanhope, p. 71. [See also Appendix A, n. 3. (Ed.)]

⁵⁰ Napoleon, p. 241.

⁵¹ Henry, p. 158.

⁵² Napoleon, p. 417.

⁵³ Letter of August 16, 1805, in Wragg, p. 195.

⁵⁴ Okumiya, p. 251.

are situations when one ought to "close with the enemy, without staying to count the odds."⁵⁵

Chance may affect assessment in a different fashion. Success and failure on the battlefield may result from chance events but be viewed as indicative of the correctness of assessment and planning (if success occurred) or incorrectness (if failure occurred). The success of the Japanese air attack on the U.S. planes at Luzon on December 8, 1941, was not due to careful and exact planning, but rather to the intervention of a thick fog at the Formosan airport from which the Japanese planes took off and which delayed their departure by several hours. In fact, the U.S. planes had taken to the air when alerted by reports of Pearl Harbor but, their fuel exhausted, they returned to their base in time to be caught on the ground by the delayed Japanese strike.⁵⁶ Such successes are hardly a basis for commending the virtues of assessment and planning.

B. INCENTIVES TO ASSESS FOREIGN FORCES

Despite the by no means inconsequential incentives noted above for neglect or total disregard of the need to observe and assess foreign forces, it is nonetheless true that for the military and political leaders of most modern and earlier states accurate information on the intention and capabilities of neighbors and prospective enemies and allies has been held to be of great importance.

(1) Rivalry and Belligerency

Few things are more likely to inspire a strong regard for political and military intelligence than the existence in close proximity to each other of many (usually small) states whose insecurities and ambitions provoke continual distrust and frequent wars. This is all the more true if these states represent a relatively sophisticated level of political life. The foregoing conditions existed in a variety of historical contexts--the Chinese states during the period of the Warring States (403-221 B.C.), the states of northern and central India, the Greek city-states, the small north African kingdoms and

⁵⁵Thucydides (4.12.9,10), p. 213.

⁵⁶Okumiya, pp. 56-57.

city-states of the fourteenth century, and the Italian city-states of the late Middle Ages and the Renaissance. These states represent a great range of cultural and technological conditions, yet in all these cases a strong interest in political and military intelligence was present. Survival and the challenges of ambition made constant surveillance a matter of highest importance. The ancient Indian institutes of espionage conducted perhaps the most highly intensive espionage and counter-espionage activities known to ancient history.⁵⁷ In tenth century Persia, an experienced prince warned his son: "Do not neglect to inform yourself of the position of other kings in the world. The ideal at which you must aim is that no king shall be able to draw a breath without your being aware of it."⁵⁸ This ideal equally represents ancient Chinese, Italian Renaissance and fourteenth century North African aspirations in the intelligence field. The Greek states were not indifferent to the need for intelligence, but King Archidamus' statement quoted above (p. 4) suggests a certain passivity with respect to the possibility of learning about the Athenians. Starr has shown that the Greeks made active use of envoys, travelers, merchants, and people with family connections abroad as intelligence agents,⁵⁹ but all this does not seem to reflect the passion for intelligence found in early Asian political contexts.

It is notable that in the modern world General Vo Nguyen Giap, in an otherwise fairly detailed account of the objectives and requirements for winning the war in Vietnam, hardly refers to the intelligence problem, perhaps because for the North Vietnamese it was so easily solved. He contents himself with the statement "Our people's army ought to be perfectly informed concerning the plans of the enemy."⁶⁰

(2) The Rational Direction of Behavior--Prevision and Planning

The military activities of the states discussed above and of most states with developed civil and military systems, are part of a

⁵⁷ See Shamasastri, pp. 17-22, and Kangle, pp. 21-27.

⁵⁸ Ibn Iskandar, p. 231.

⁵⁹ Starr, pp. 24-27.

⁶⁰ Giap, p. 102.

calculating and planned direction of state affairs. The drive toward rationality and planning represents a recognition that mind, and not just force unaccompanied by much thought, plays a decisive role in the issue of military affairs. An early manifestation of the dominance of mind was the emphasis on cunning and deception which often preceded military planning in the sense in which we understand that term today. Cunning, as represented by Nestor and Ulysses, is not the same as general staff preparations for war, but both represent a concern to let mind substitute for force, and both make immediate demands for information and assessment. Nestor, Ulysses and others like them could not exercise their cunning without some study of their antagonists, and indeed, accounts of their stratagems show an appreciation of enemy characteristics. Rationality, calculation and planning co-existed in ancient Rome along with the grossest intrusions of superstition. But these intrusions were not capable of destroying the impulses to calculate and plan. In modern times, too, the calculating and planning functions may be distorted by certain elements--conservative preferences for the known, resentment against innovations suggested by social inferiors--without effecting a depreciation of these activities. Even in the heroic period when information, assessment, calculation and planning were disregarded for more direct and violent action, the wise councillor was often a highly esteemed figure. In ancient China, in the period of the Warring States, the equivalent of a general staff existed. Weather forecasters, map makers, supply officers, engineers for tunneling and mining, experts on river crossing and other special military operations existed. Deliberations in the temple councils dealt with enemy generalship and morale, terrain and weather, and doctrinal matters.⁶¹

C. W. von Grolman, Chief of the Prussian general staff from 1814 to 1819, considered that the supreme function of the general staff was: (1) the acquisition of data on the armies of neighboring states, (2) the close examination of every possible military situation

⁶¹Sun Tzu, pp. 35, 40.

that might arise, and (3) the preparation of mobilization and deployment plans for every eventuality.⁶² The explicit listing in first place of the information (and presumably assessment) function seems a self-evident emphasis, since it is clear that planning for future military eventualities requires considerable information and assessment of foreign forces. But Grolman's statement is, nonetheless, of interest because a number of subsequent statements of Prussian and German general staff functions confine themselves essentially to "planning for all eventualities." While it may be presumed that the assessment function is presupposed in these later statements, failure to give it explicit mention, as did Grolman, may suggest greater fascination with strategy than with the basis on which strategy must rest, and perhaps also implies that assessment is relatively easy and straightforward but strategic decisions more difficult, an ordering, if in fact implied, that is not self-evident.

The insistence on not waiting for events to force decisions and judgments upon one, a central aspect of the drive toward rationality and planning, obviously demands the aid of substantial information and assessment resources. The importance of deciding (in some measure) in advance distinguishes the rational from the improvident commander. Sabinus, said Caesar, was at his wits' end "as generally happens to those who are compelled to make decisions when a battle has actually begun."⁶³ Sun Tzu, in a similar vein, remarks: "A victorious army wins its victories before seeking battle."⁶⁴ He also quotes the saying, "If you know the enemy and know yourself, you need not fear the result of a hundred battles." Polybius was contemptuous of a general who undertook a siege operation without having the foresight to calculate the height of the city walls and to establish whether his scaling ladders were high enough.⁶⁵

Napoleon, who often acted as his own chief of staff despite his high regard for his chief of staff, General Berthier, did much of his

⁶²Goerlitz, pp. 53-54.

⁶³Caesar (5.24-37), p. 146.

⁶⁴Sun Tzu, p. 87.

⁶⁵Polybius (5.98), vol. 1, p. 445.

own intelligence work. He pored over foreign newspapers and complained that he was not receiving newspapers from Petersburg, Riga, and Stockholm.⁶⁶ His high regard for detailed intelligence as a basis for his decisions is evident from his frequent complaints that his generals were sending him a few lines of information when what he needed was "a great deal of detail."⁶⁷ Dissatisfied with interrogation reports, he drew up a questionnaire to guide interrogators and complained later of failures to follow it.⁶⁸

Napoleon's insistence on detailed information is clearly intended to serve planning: "In war nothing is got but by calculation; anything not thought out in all its details effects no result."⁶⁹ This view reflects a perfectly genuine dedication to the demands of rationality--planning and prevision--in warfare, but it should not be taken too literally. Napoleon, like most successful generals, was highly appreciative of the role played in battle by the sudden appearance of opportunities that must be seized without hesitation.⁷⁰

Rationality and planning are generally more readily observed in the action of a single mind than in a bureaucracy or in a committee, although the growth of specialized bureaus and agencies certainly illustrates the resources and importance attached to the planning function with its great demand for information. Up to and including Napoleon, the planning function was often concentrated in Great Captains like Frederick the Great, Gustavus, Charles XII, Marlborough, and this was accompanied by specifications of required observations and information by the Great Captains who then proceeded to make their own

⁶⁶ Napoleon, p. 24.

⁶⁷ Ibid., pp. 138-139.

⁶⁸ Ibid., p. 142. Napoleon wrote to one of his generals: "Your correspondence is inadequate It is unheard of that a brigade general who has been in captivity for six days has not yet arrived at my headquarters. You think you have drawn all the advantage possible from having interrogated him. You are mistaken What he said to you seems to you to be of indifferent importance. If I had interrogated him I would have drawn very important information from him." Ibid., p. 140.

⁶⁹ Henry, p. 136.

⁷⁰ Napoleon, p. 234.

assessments. Napoleon's personal interrogation of captured high ranking officers was matched by Wellington who in 1810 personally examined the wounds of General Simon, captured at Bussaco, in order to appraise the value of the new British shrapnel shell.⁷¹ The concentration of the assessment process in a single individual may have imposed severe limitations, but on the other hand these limitations may have been compensated for by the consistency and relevance of the assessments that were made. In any case, as we noted earlier (see p. 26), modern large-scale bureaucratic organization is likely to do much better in intelligence gathering than in assessments of the vast body of data this provides.

Napoleon represents the dilemma of a great commander who stood on the threshold of a period when the supreme commander could no longer oversee and control a large part of the military effort. Success was no longer simply a function of his own capabilities. Larger armies, numerous generals and marshals, increasing problems of supply and intelligence, resisted the commander's attempt to control the military effort. Napoleon's impatience with many of his subordinates, his acute awareness of their incompetence and lack of sensitivity, represents the anguish of genius hampered by mediocrities. Perhaps Napoleon might have at least slashed the bureaucracy that had developed in the French war offices. In 1836 there were still 4000 clerks in the French War Office and there had been two to three times as many under Napoleon. In that same year there were only about 150 clerks in the corresponding British offices; they began work at 10 or 11 a.m. as compared with the 4000 French whose workday began at 6 a.m.⁷²

Hitler, Stalin and, to a lesser extent, Churchill represent in the twentieth century the conjunction of supreme political power with the active performance of the functions of commander-in-chief. They did not, of course, combine with these responsibilities, as had Gustavus, Charles XII and Napoleon, for example, battlefield command. Stalin, despite his close control of the battle fronts, never was present in

⁷¹Hughes, p. 147.

⁷²Stanhope, p. 85.

the areas of battle and, indeed, spent only two days throughout the war in a theatre of operations, possibly it has been conjectured, for the purpose of making a propaganda film. Nonetheless his insistence on statistics, his continual demand for more and more facts, his direct communications with battlefield commanders, thus bypassing their superiors, enabled him to acquire for the most part an outstanding grasp of the strategic and tactical situations and to make--after the failures of the first years of the war--assessments often superior to those of his top generals.⁷³ Nevertheless his contempt for his generals reflects his dependence on them and, like Napoleon, his inability to control, in the detail he would have preferred, the planning and operations of the vast military effort. Stalin was well aware that World War II required professional, academy trained commanders and specialists and not the old type of commanders who thought that only personal courage counted and who, in the old tradition, threw drunken supper parties during the first weeks of the war. In the summer of 1942, in *The Front*, a play whose staging was apparently suggested by Stalin, the old type of general is satirized. "I have learned how to wage war in battle, not in academies. . . . What matters is a commander's soul. If it is brave, courageous, stubborn, then one needs to fear no one. . . . I am not used to sitting behind a desk and breaking my head over maps. War is not an academy. . . ." In the play this general is contrasted with Major General Fire who averts disaster. He is a bookish strategist who anticipates problems. He disobeys the nonsensical orders of his superior and the Kremlin stands by him.⁷⁴

After World War II, organizations and bureaucracies based on scientific developments became just as important an expression of rationality and planning as did the general staff. Systems analysis, cost-benefit analysis, game theory, decision theory, military and political gaming, organization theory, and program budgeting gave an enormous impetus to requirements for information and assessments.

⁷³ For Stalin's role as Commander-in-Chief in World War II, see Seaton, *Stalin as Military Commander*.

⁷⁴ Dunham, pp. 5-6.

These techniques were consumers on a very large scale of data and evaluations of one's own and foreign forces.

The drive for prevision and planning was, in Germany, present also in a private industrial organization where its presence was almost as important as in the German general staff. Alfred Krupp advised his son, Frederick ("Fritz"), to think about "every possibility in advance, generally ten years in advance. . . Many clever people may regard that as superfluous, and all mentally lazy people always will . . ." ⁷⁵ The prevision and planning impulses of Alfred Krupp stimulated his private intelligence activities.

Observation and assessment were not only motivated by impulses to control present and future situations. They were motivated, too, by a growing concern with the economic cost of military preparations and battles. In the seventeenth century the loss of soldiers was often less regretted for its inroads on manpower than it was for the cost involved in training and replacing them. In Brandenburg-Prussia under the Great Electors, war taxes represented two thirds of the total income of the state. ⁷⁶ Raimundo Montecuccoli, one of the great Imperial generals of the Thirty Years War, stressed that "For war you need three things, 1. Money. 2. Money. 3. Money." ⁷⁷ Enormous casualties became less and less tolerable as the cost of replacing experienced, long-service soldiers increased. Even in the nineteenth century, Sir William Napier's proposal that good British soldiers could be produced by three years of training and experience was received with the greatest astonishment and skepticism. ⁷⁸

It is remarkable that in an age in which the technology of military life was primitive compared with that of today, the recommended time for producing a soldier was much greater than now.

⁷⁵ Manchester, p. 217. Alfred Krupp's reference to "mentally lazy people" strikes at a particularly vulnerable point in many organizations staffed by conservative, tired, and depleted seniors often oriented primarily toward status and retirement rather than the demands of a changing world.

⁷⁶ Sombart, p. 56.

⁷⁷ Keegan and Wheatcroft, p. 230.

⁷⁸ Luvaas, p. 24.

Partly, of course, this is explicable on the ground that the troops themselves had little or no education. But one reason for the long time required to produce an effective soldier was the need to impose a stern discipline on unruly, resentful soldiers often impressed into service. These soldiers were drilled and disciplined until they had mastered perfectly the necessary control under fire and were able to fire and maneuver effectively in response to their officers' orders. Trained and hardened in battle, these men were expensive items.

In addition to manpower costs, rulers were appalled by the cost of new weapons--firearms and cannon--whose production and introduction on the battlefield had to be assumed by the state.

It must not be supposed that the meticulous, exhaustive planning of a general staff guarantees forces against failures, often of an elementary character. In 1870 the German forces did not have any maps of France available at the beginning of the campaign--the king and Moltke had assumed France would take the initiative and invade Prussia.⁷⁹ William I had thought that only partial mobilization should occur, but Moltke's mobilization plan that automatically led to deployment and invasion was not flexible enough to permit such alterations.⁸⁰ The identical situation recurred in July 1914 when the Kaiser wanted to slow down mobilization and was told by his Chief of Staff, the nephew of the earlier and greater von Moltke, that the only way to slow it down was to let it complete itself and then put it in reverse.

When the French delay in 1870, despite France's declaration of war, in effect made the Prussian force the aggressors, the crown prince said: "Whoever could have thought it?"⁸¹ Prevision and planning may flounder thus on the tendency--already noted above--to attribute to the enemy one's perceptions and assessment of the self. Prussian military men should have anticipated French organizational difficulties.

⁷⁹ Howard, pp. 77-78.

⁸⁰ Ibid., pp. 57-58.

⁸¹ Ibid., p. 78.

In 1854 against Russia and in 1859 against Austria, France had rushed troops to the front that arrived days and weeks before supplies and weapons caught up with them. In 1870, French reservists had available the highly effective firearm, the *chassepot*, superior to the Prussian needle gun, but most reservists had never seen one and did not know how to load it.⁸² The attempt to relieve Paris from the south involved troop and supply movements planned to be completed in thirty-six hours, but which took three days. All the transportation mistakes of the preceding July were repeated.⁸³

These nineteenth and early twentieth century examples of almost incredibly bad staff work seem to belong to a past in which rational planning and organizational improvement were still primitive, but we are brought up short by equally extraordinary staff failures in World War II. In the 2000-man British expedition to Norway, one battalion's entire supply of three-inch mortars was missing. Another battalion had mortars but no ammunition. Field telephones were loaded on one ship, the necessary cables on another. The troops had crushing lambswool coats weighing fifteen pounds but no skis or snowshoes. Stores were unloaded in unmarked and unlabeled crates. The French contingent of 4000 men arrived with skis but without the bindings necessary to use them.⁸⁴ Nor did German thoroughness prevent major errors. Speaking of Germany's attack on Russia, General Franz Halder, chief of staff, remarked: "We estimated that we should contend with 180 Russian divisions; we have already counted 360."⁸⁵ The passage of seventy years since the Franco-Prussian War, and examples from earlier nineteenth century wars, clearly did not guarantee that World War II staff work would be able to avoid these nineteenth-century-style disasters.

(3) Standing Armies

The existence of standing armies in a more or less ready status creates a threat of surprise attack that provides incentives for constant

⁸² Ibid., p. 106.

⁸³ Ibid., pp. 294-295.

⁸⁴ Mason, pp. 322-323, 325.

⁸⁵ Taylor, "Stalin," p. 234.

surveillance. In periods when wars required long preparations, generally not easily concealed, assessment could be delayed until signs of military preparation by the enemy became apparent. This required some surveillance but diplomatic personnel and even untrained observers were not likely to miss these preparations. The standing army, however, especially when supported by a rapid reserve mobilization facility, offers little or no opportunity for observations that reveal enemy intentions. By increasing the danger of deception and surprise the standing army provides strong incentives for the wary to keep a close, continuous eye on the enemy.

Standing armies, in the form of small, elite units in constant readiness, existed among some Greek city-states,⁸⁶ and in China, in the period of the Warring States, levies gave way to standing armies incorporating peasant conscripts led by professional officers. Able to undertake military action on short notice, these armies were a continual threat to neighboring states.⁸⁷ Louis XI introduced permanent units attached to the throne rather than to the nobles, but in Europe it was not until the seventeenth century that standing armies were the principal form of military power, although often composed of mercenaries drawn from several European nations. Louis XIV had English, Scottish, Irish, German, Spanish and Swiss units.⁸⁸ In the eighteenth century mercenary armies largely disappeared, and the standing army became more often a national army.

As the standing armies grew to substantial size their threat capabilities correspondingly increased. In Brandenburg-Prussia in 1740 and 1786, the peacetime army strength represented four per cent of the population. During this period, Austria had a peacetime army of 297,000, Russia 225,000, Prussia 190,000, France 182,000, Spain 85,000, Denmark and Norway 74,000. Great Britain's insular position is reflected in the 21,000 that comprised its standing army.⁸⁹

⁸⁶ Adcock, p. 4.

⁸⁷ Sun Tzu, pp. 33-34.

⁸⁸ Brodie, pp. 77-79.

⁸⁹ Sombart, pp. 42-43. Sweden's forces were 48,000, Poland's 17,000, Portugal and the Netherlands' 36,000 each.

From this time on, the intentions (and capabilities) of foreign states were a matter of constant concern. Crises such as, in modern times, the Fashoda incident were all the more serious because a ready capability for war existed. In the years immediately preceding World War I, the European powers, fearing surprise attacks, maintained a close watch over each other. Some nations, however, have had so poor a reputation for mobilization capabilities that surprise attacks by them were not greatly feared. The Austrians in the eighteen sixties were well-known to be incapable of rapid mobilization. Moltke pointed out that Prussia could easily carry its field army of 285,000 over five railroad lines and concentrate them in 25 days on the frontiers of Saxony and Bohemia. Austria, with only one rail line, required 45 days to assemble 200,000 men.⁹⁰

In the contemporary world it may be possible to effect mobilization of reserves rapidly in a crisis, but the demonstration, deterrence or threat effectiveness can be so costly as to preclude its use except on rare occasions. The 1974 ten-day Greek mobilization is said to have cost about 650,000,000 German marks, not taking account of costs involved in lost working hours.⁹¹ Evidently reserves may, for economic as well as political reasons, be difficult to employ for political-military pressure, and in crises the standing army generally has to assume this duty by itself.

For the nuclear super-powers, the U.S. and the Soviet Union, surprise strategic nuclear attack has little to do with manpower or mobilization. The enormous consequences of a nuclear surprise attack provide every incentive for continuous and intensive observation, but the relevant observations here are mostly intentions and indicators of them. Intentions are today often dismissed as a hopeless object of scrutiny or prediction. This may well be the case, but if so, it is in sharp contrast to preceding ages in which the assessment deemed of greatest importance and feasibility was, in fact, the intentions of foreign states.

⁹⁰ McElwee, pp. 55-56. Austria's mobilization deficiencies did not prevent Cavour and Bismarck from provoking her into wars that she should have avoided or postponed. Ibid., p. 56.

⁹¹ Albrecht, p. 138.

(4) War Experiences Force New Observations and Assessments

The rich material usually furnished by war provides strong incentives both during war and in post-war analyses to renew one's observations and assessments of foreign powers. Greek experience in fighting the Persians, especially at Marathon and Platea, Gallic experience in fighting Caesar, and tribal experience on the Chinese border during the Han period, led to observations that were translated into tactical innovations.⁹² In more recent times, the stimulation of observation and assessment by wars is reflected in a flood of memoirs, military histories and technical analyses of battles and campaigns. The last half of the nineteenth century and the first decades of the twentieth century, with their Turkish-Russian War, Austrian-Italian War, Boer War, the American Civil War, Prussian-Danish War, Prussian-Austrian War, Franco-Prussian War, the Russo-Japanese War, and World War I and World War II, together with considerable military activity in India and the Northwest Frontier, in Central Africa and in Latin America, provided an almost inexhaustible outpouring of materials accompanied by disputes and disagreements concerning their significance.

The interest that the foregoing wars had for military men was in large measure their significance for strategic and tactical doctrine and weapon evaluation,* and not for the light they threw on the military qualities and capabilities of particular military establishments. The latter interest was, nonetheless, prominent in the case of a country that emerged suddenly as a military power (for example, the Japanese in the Russo-Japanese War), or in the case of major and prolonged confrontations and threats (for example, Western concern with the Soviet Union from 1947 to the present), or in the case of tribal groups whose qualities were ill-known before war and battle had occurred. In these various instances, the analysis of a recent war took on assessment objectives relevant for future military action with the particular nation involved and was not simply relevant for military doctrine or tactics in general.

⁹² Adcock, pp. 11-13; Caesar (5.38-52), pp. 151, 157, (7.14-31), pp. 192-193, 196-197; and Loewe, p. 79.

* See Appendix A, n.4.

(5) Strangeness

In earlier periods, the movement of whole peoples and tribes, whether as migrants or conquering hordes, and the clash of armies without prior contact with each other, created conditions in which the strange, often bizarre, nature of the enemy provided stimulus for advance observation and study of him. Arrian's account of Alexander the Great as he penetrated into unknown terrain on his way to India, and Caesar's Gallic commentaries clearly exhibit the incentives for study provided by cultural diversity and strangeness.

This motive for observation and assessment still exists in modern times. Peoples and military establishments in distant peripheries with cultural, political, and perhaps racial dissimilarities, provide a sense of strangeness and uneasiness that can only be quieted by study and observation of them. Japan, the Soviet Union, China and Vietnam illustrate this incentive for U.S. surveillance and assessment in modern times.

In earlier periods, the strangeness of peoples was often accompanied and magnified by the awesome character of their military equipment. Elephants produced great apprehension among those who might have to face them.⁹³ When the Suren bodyguards, heavily armed and armored Parthian cavalry, charged the Roman infantry at Carrhae in 53 B.C., the Roman legions, unprepared for these shock tactics, were cut to pieces. This "new arm is described with the awe accorded in our day to the invention of armoured vehicles."⁹⁴ Such awe spreads news of a new phenomenon with great rapidity. The sight of horses being carried by Alexander's barges on the Hydaspes produced a similar sense of amazement among the Indians who witnessed this unheard of phenomenon and followed the barges for miles along the river banks.⁹⁵ Caesar's

⁹³ Elephants were largely successful against troops that had never seen them, as against the Gauls in 275 B.C. and in the victory of Pyrrhus over the Romans. Otherwise, the use of elephants was associated more frequently with defeat than victory. Adcock, pp. 55-56. The elephant has been used in battle for some 2000 years. When Clive assembled his forces in 1757 for the battle of Plassey, he included 50 elephants. Fuller, vol. 2, p. 226.

⁹⁴ Caroe, p. 72.

⁹⁵ Arrian (6.3), p. 304.

siege towers were "strange, unfamiliar spectacle[s] [that] frightened [the Gauls] into sending envoys to ask Caesar for peace. The envoys said they were forced to the conclusion that the Romans had divine aid . . . since they could move up an apparatus of such height at such a speed."⁹⁶ It is evident from the accounts of classical military writers that news of military prodigies spread rapidly and was the object of attention well beyond the locus where the prodigies first appeared.

In modern Europe military prodigies also occurred. At Liège in 1914 a Belgian professor observed a piece of artillery being pulled by 36 horses that was so colossal he could not believe his eyes. It was one of the eight cannons called by the Germans "the surprise of the war." "The crowd remained mute with consternation . . . Hannibal's elephants could not have astonished the Romans more."⁹⁷ In World War II the Japanese were constantly astonished at the speed with which U.S. construction crews hacked out airfields from solid coral and impenetrable jungle.⁹⁸ The Hiroshima bomb was the biggest prodigy of the war, perhaps of all wars, but the universal attention it received was, after all, only in degree different from the attention paid to the strange, the awesome and the unexpected in past military practices.

The reputation of some peoples and armies for cruelty and ferocity in battle was often based on stories and rumors spread by those who fled before them. This, when it did not simply produce panic, sometimes incited prospective antagonists to verify, if they could, the rumors that had reached them. Numbers of combatants when sufficiently large can also take on the character of an awesome prodigy. The crusade in 1209 against the Albigensians formed an "endless ribbon" of troops both on land and on water moving down the Rhône Valley. According to contemporary chroniclers "the spectacle of this armed multitude coming down the Rhône Valley positively stupified those who witnessed it: there was something monstrous about it, something unnatural."⁹⁹

⁹⁶ Caesar (2.12-35), p. 89. See also (1.1-29), p. 45 and (2.12-35), p. 80 for further illustrations.

⁹⁷ Manchester, p. 321.

⁹⁸ Caiden, p. xiv.

⁹⁹ Oldenbourg, pp. 108-109.

(6) Professionalization

The growth of standing armies, general staffs, and a great variety of specialized military functions, has included the development of a large corps of military intelligence personnel and analysts who, like other specialists in the military service, have the necessary knowledge and professional incentives for attaching importance to their interests in the perception and assessment process. Their work has been supplemented by the increased role played since World War I, and especially World War II, by civilian analysts in special research institutes and in government offices.

In addition to civilian analysts working for defense departments or institutions serving defense departments, there is in the United States and the West generally an enormous outpouring of books, articles, and journalistic contributions on foreign military forces written by private scholars and journalists with no, or only limited, access to classified information and often without any military experience. They play a substantial role in shaping the image of the enemy held by military men, the political class, and, of course, the general public.

The great increase in the contemporary period in both the number of significant military establishments and the variety of weapons with their corresponding special tactics, has given greater importance to intelligence and assessment activities, so that today they very likely have a greater effort attached to them relative to other military services than at any other time in Western military history. This does not necessarily signify, however, that a lesser *interest* in intelligence existed in earlier periods. When political and military leadership were often conjoined, centralization of the decision process in essentially one person was a great incentive, both in peacetime interludes and in wartime, for military assessment to be also concentrated in the one person making the critical decisions. Vast collections of data could not be used by these political-military leaders but this did not signify a disinterest in intelligence and assessment.

The growth of military history in the nineteenth and twentieth centuries and its popularity among both military men and civilians directed attention to a great variety of factors that played important

roles in grand strategy, strategy and tactics. This appreciation of factors influencing military decisions and military success and failure, provided an obvious incentive to study the contemporary world and contemporary military forces in the light of these historically revealed considerations and thus gave emphasis to further observation and assessment.

Military academies, staff schools and other organizations for the study and teaching of military matters may primarily concern themselves with teaching the art of warfare, but when there is a pre-occupation with a particular potential enemy, instruction tends to be shaped toward requirements of battle with him; this in turn gives considerable emphasis to the study and assessment of these particular enemy forces, and reduces interest in the general study of strategy and tactics divorced from concern with a particular enemy (see p. 42). Interest in particular enemy forces, for example those of the Soviet Union, does not necessarily guarantee that our strategical and tactical doctrine are well adapted to Soviet political-military characteristics. It is possible to keep a particular enemy in view and yet nonetheless treat him in military training and planning as if he were much the same as oneself. The tendency to envisage the enemy and his potential actions as determined largely or entirely by a common military technology reduces considerably the apparent advantage of dealing with him and not with an unspecified enemy.

We have seen that inflexibility in military organizations and doctrine inhibits observation and assessment (pp. 20-22). The modern professional military man has a large number of options and this greater flexibility adds to the incentives to study the enemy since he must decide which options are most desirable and in what contexts. This becomes particularly important in the case of nuclear weapons whose future use--if any--will have to be made without the benefit of past military experience (if we exclude Hiroshima and Nagasaki).

(7) Special Opportunities and Circumstances Motivating Observation and Assessment

Whether incentives to observe and assess foreign military forces are weak or strong, the existence of special opportunities and circumstances may lead to observations that otherwise might not be made.

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Some military observations are at times almost thrust upon those who have an interest in them. In past wars military men often showed an extraordinary degree of indiscretion. In the Boer War General Gatacre spoke so freely of his plans for an offensive involving a thirty-mile advance that they were known through the army a week in advance and were published in the London *Times* the day before his operation began.¹⁰⁰ Similarly, in the Franco-Prussian War the Prussians permitted English press correspondents to send out uncensored reports. German concentrations north of Saarbrücken were disclosed in English papers before, apparently, French intelligence had learned of them.¹⁰¹ In early 1917, General Robert Georges Nivelle, who had replaced Joffre, prepared an offensive which was well publicized in advance both in the newspapers and through orders circulated as low as the company level and found by the Germans when they took prisoners carrying them.¹⁰² This behavior of professional soldiers makes more excusable the naive behavior of John the Fife Player, one of the leaders of the Peasant Wars of the early sixteenth century. Preaching in church, he asked his peasant audience to arm themselves and assemble for action the following week at the church. Naturally, he was seized and executed by the forces of the local nobility that saw no reason to wait until the following week to take advantage of this announcement. Such simple-minded behavior was repeated in other incidents during the Peasant Wars. Time after time peasant leaders fell into traps by relying on the word

¹⁰⁰ McElwee, p. 236.

¹⁰¹ Howard, p. 87.

¹⁰² Manchester, p. 335.

of a church, noble or town leaders.¹⁰³ In ancient China, too, in the fourth century B.C. and earlier, enemy gullibility played a major role in military defeat.¹⁰⁴

Often it is the political rather than the military apparatus that is responsible for indiscretion. General Burgoyne in 1777 wrote to London to reproach officials there: "I had the surprise and mortification to find a paper handed about at Montreal, publishing the whole design of the campaign, almost as accurately as if it had been copied from the Secretary of State's letter."¹⁰⁵

* * * * *

From ancient times to the present, ambassadors and special envoys have often had opportunities for military-political observations. During the second siege of Vienna in 1683 by the Turks, Kara Mustapha after keeping the Imperial ambassador in his camp as a virtual prisoner, finally sent him back to the emperor, to whom he was able to make very valuable reports on the Turkish army that shortly thereafter was defeated by the Christian forces.¹⁰⁶ Machiavelli had noted many years earlier that to learn the enemy's secrets and dispositions, some commanders sent ambassadors accompanied by clever military officers disguised as valets who seized the opportunity to examine the enemy's army.¹⁰⁷ In the eighteenth century, polite and ceremonious exchanges of messages, sometimes accompanied by presents, between commanders in the field did not preclude these occasions from being used to gather useful military intelligence.¹⁰⁸

¹⁰³ Engels, pp. 94, 98, 106, 115-116, 133, 134.

¹⁰⁴ Fairbank, p. 17.

¹⁰⁵ Fuller, vol. 2, p. 282.

¹⁰⁶ Kreutel, p. 115.

¹⁰⁷ Machiavelli, p. 866.

¹⁰⁸ Clark, p. 90.

In democracies, especially, it is often difficult to avoid providing enemies with significant information. General Giap in his discussion of the prospects and requirements for waging war in Vietnam, returns over and over again to the disputes that raged within the American side. Thus, disagreements between Secretary MacNamara and General Westmoreland concerning increasing U.S. forces in Vietnam seemed not only to provide Giap with encouraging news but also aided him in interpreting the grand strategic and strategic situation.¹⁰⁹ When we compare what Soviet public discussions and documents reveal on Soviet military matters with what the requirements of U.S. democratic institutions and openness provide the Soviets, it is apparent that the latter have in this matter a great advantage. Still one must recognize that a certain Soviet naiveté often leads them to reveal more than they seem to realize.

Democracy created a security problem in Greece, too, where debates in the assemblies of the city-states often provided enemies with a useful picture of the military-political intentions and capabilities of potential or actual enemies. As Demosthenes said: "The political system is based upon speeches."¹¹⁰ This problem clearly persists in western parliamentary bodies today. In Greece, ambassadors sometimes found that a more active role was required than simply listening in on assembly debates. The Persian commander, Memnon, in order to estimate manpower resources of potential enemies, sent them an ambassador accompanied by a famous musician whose public performances permitted the ambassador to estimate population size from the crowds who attended these performances.¹¹¹

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¹⁰⁹ Giap, p. 47.

¹¹⁰ Starr, pp. 13-14, 16-17, 37.

¹¹¹ Ibid., p. 31. Greek states did not have resident embassies in foreign states. Ambassadors were sent on specific occasions. Ibid., p. 20.

An easy inducement to observe (that is spy) was provided from antiquity to the seventeenth century by the widespread use of mercenaries who were easily infiltrated or from whom defections only too frequently occurred. In ancient China the use of strategic advice from defectors was widespread.¹¹² In the late Roman Empire when the *protector* Antoninus planned to join the Persians, "being versed in both [Greek and Latin] tongues [he] busied himself with calculations, making record of what troops were serving anywhere or of what strength, or at what time expeditions would be made, inquiring also by tireless questioning whether supplies of arms, provisions, and other things . . . were at hand . . ."¹¹³ Obviously quite a windfall for Persian intelligence.

Prisoners of war are a conventional source of information but it is noteworthy that forces with a very limited intelligence capability, like the Turkish army laying siege to Vienna in 1683, not only tended to rely on prisoners of war, often unreliable in their reports, but encouraged this unreliability by rewarding prisoners who gave favorable news and decapitating those who gave unwelcome reports,¹¹⁴ an extraordinary lack of common sense. This behavior may have reflected the long-standing hostility to the bearer of evil tidings characteristic of a number of ancient societies. One is also reminded of Caesar's comment that some Gallic tribes believed any rumor that reached their ears.

* * * * *

Professional military establishments made military studies a respectable domain of intellectual activity. Doctrinal and other disputes often stemming from the conflict between younger, innovative elements with older, conservative forces also increased the outpouring of books on military doctrine. These do not necessarily reveal future military postures of potential enemies, since they often reflect largely a conflict of points of views rather than an accepted doctrine.

¹¹² Kierman, pp. 40-41.

¹¹³ Starr, p. 31.

¹¹⁴ Kreutel, pp. 49, 30.

Thus important books by Generals J. F. C. Fuller, Giulio Douhet, William ("Billy") Mitchell, and Captain Liddell Hart did not reveal English, Italian, or U.S. military doctrine. Nonetheless they alerted others to possible directions that might be taken by an enemy or themselves, and stimulated observation and study--study that sometimes ended in the adoption of a recommended strategy. Colonel (later General) Guderian absorbed Liddell Hart's 1924 paper, "A New Model Army," on armored forces as well as the Haldane lectures by General Fuller on the same theme. From this stemmed early German and Soviet interest in armored warfare.¹¹⁵

Analytical and historical military works are sometimes viewed not only as stimulants to doctrinal and tactical debate but as a weapon that might be used against one and, in the case of historical work about one's own forces and campaigns, as providing dangerous intelligence to potential enemies. Illustrating the first case we find that in Japan the Chinese military classics including, of course, Sun Tzu, were extremely rare and guarded as secret weapons. Only qualified persons had access to them.¹¹⁶ Books intended to promote doctrinal and tactical sophistication in one's own military establishment may be eagerly read and analyzed in other countries not for the sake of doctrinal and tactical debate but as a means of envisaging enemy dispositions and preparing for them. Even so secretive a military establishment as the Russian's has produced such work, especially the work edited by Marshal V. D. Sokolovskii on military strategy.¹¹⁷

The problem is an old one. Napoleon's indebtedness to Jacques de Guibert's *Essai General de Tactique* and the popularity of this work in many military academies may have sensitized him to the danger that intelligence and assessment were facilitated by such works. Napoleon had General Servan arrested for publishing a book, *French Campaigns*

¹¹⁵ In the early thirties, both Fuller and Liddell Hart became converted to the superiority of the defense, much to the astonishment of the Germans. Mysyrowicz, pp. 113-114.

¹¹⁶ Sun Tzu, pp. 169-173.

¹¹⁷ Marshal V. D. Sokolovskii (ed.), *Military Strategy*.

in Italy from Henry IV to 1806, fearing that the study of his North Italian campaigns would provide valuable intelligence to the enemy.¹¹⁸ Napoleon also severely reprimanded people for printing information of military value in the newspapers. In 1873 Alfred Krupp was called to Berlin where he was coldly received by the emperor who had a copy of a pamphlet written at Krupp's direction on the history of the cast steel gun. The emperor complained that the book would be invaluable to any general confronting the new Krupp field piece.¹¹⁹

Perhaps such concerns are misplaced. Enemies may be less likely to learn from these indiscretions than one supposes. One might have thought that Guderian's *Achtung! Panzer* published in 1937, followed by an English edition in the same year, with its discussion of the technique of blitzkrieg would have been withheld from publication, but it was not, and it is doubtful that the Nazis lost anything by it when war came.

* * * * *

An opportunity for observation and assessment of foreign forces, particularly common in the last half of the nineteenth century, is the existence of wars between nations A and B that provide ideal occasions for country C to learn about the capabilities or other characteristics of these military forces. These opportunities were all the more easily available in the past because of the almost universal practice in the nineteenth century of permitting military observers and newspaper correspondents from neutral and friendly countries to study close up the progress of a war. The Crimean War, American Civil War, the Russo-Japanese War, and the Franco-Prussian War were fought in the presence of a substantial number of foreign military personnel and military correspondents who were often given excellent facilities for observation unaccompanied by any genuine control over the transmission of their observations to the enemy or to other foreign powers that might be potential antagonists.

¹¹⁸ Napoleon, pp. 132, 128-131.

¹¹⁹ Manchester, p. 190.

The wars of others may also be used to assess one's own forces. The German Kondor Legion in Spain during the Spanish Civil War is an example not only of the use of German forces to cultivate views abroad favorable to Nazi political-military designs, but also as an opportunity to test German matériel and personnel. General Kesselring used the civil war to try out selected air units and aircraft, and learned from the war the fallacy of the unescorted bomber theory.¹²⁰ Reports from Spain on the versatility of Krupp's six batteries of 88's were so glowing that they were later cited as leading Hitler to move up the date for general war.¹²¹ More recently, evaluation of the relative merits of the MiG-21, Fishbed-Js and the F-4E Phantom was facilitated by their confrontation in July 1970 in Egyptian-Israeli air battles.¹²²

II. RELATIVE OBSERVABILITY OF DIFFERENT DIMENSIONS OF MILITARY POWER

The observation and assessment of military forces covers a very broad range of military assets, not all of which receive equal attention or are equally observable and assessable.

A. NUMBERS

If one excepts the intentions of actual or potential antagonists, civil and military manpower and force size, the most evident of military resources, is perhaps the principal estimate that interested military leaders in the past. It remains a high intelligence requirement today.*

Quite early in military history, force size, while often expressed in gross total figures, became more meaningful if the relative shares of the total force could be differentiated. In the Middle Ages the number of knights rather than that of their liegemen was viewed as

¹²⁰ Mason, pp. 214-215, 257.

¹²¹ Manchester, p. 426.

¹²² Wolfe, p. 146. It is believed that the Soviet planes were piloted by Soviet airmen.

* See Appendix A, n. 5.

determining army strength.¹²³ Later, estimates of the strength of land forces required knowledge of the relative contributions of infantry and cavalry; still later, artillery strength became an important datum. Within the infantry the relative number of musketeers and pikemen became significant after the arquebuse, a handgun introduced about 1400, achieved some appreciable effectiveness around 1600.

The use of mercenaries and their availability for hire made estimates of the size of a nation's forces uncertain. Force size might be not a function of national manpower but of the ruler's purse; armies composed largely of mercenaries could readily fluctuate in size.

Beginning with the nineteenth century, the size of reserves became just as important, and sometimes more important, than the size of standing armies. The nuclear age with its early emphasis in the West on a spasm war tended to depreciate the values of reserves. This tendency was reversed with the growth of hopes or at least aspirations for a successful conventional defense of Europe. The United States has sometimes ignored reserves that, given its emphasis on technological up-to-dateness, seem to be of negligible interest. Thus the U.S. mothball fleet has rarely figured in U.S. comparisons of its naval strength with that of the Soviets. U.S. Navy interest in emphasizing the growing naval capability of the Soviets relative to that of the U.S. has also discouraged the use of the mothball reserves to give world opinion a more confident view of U.S. capabilities. The Paris paper, *Le Monde*, has given more emphasis to the value of the U.S. mothball fleet than have U.S. journals.

"Dieu," wrote Voltaire, "est toujours pour les gros bataillons." Nonetheless force size was rarely if ever viewed as in itself predictive of military victory except where disparities in numbers were very great. Sun Tzu emphasized, "Numbers alone confer no advantage. Do not advance relying on sheer military power."¹²⁴ Procopius in his "History of the Wars," states, "It is not by the numbers of the combatants but by their orderly array and their bravery that prowess in war is wont to be measured."¹²⁵

¹²³Oldenbourg, p. 104.

¹²⁴Sun Tzu, p. 122.

¹²⁵Ibid., p. 122n.

Clausewitz pointed out that most of the military histories of the eighteenth century did not mention the size of armies, or did so only in a casual way, and never emphasized it. Tempelhoff's history of the Seven Years War was the first to give figures regularly, although only approximations. Mossenbach's account of the Prussian campaigns in the Vosges of 1793-1794 does not contain a word on the size of opposing forces.¹²⁶ This disinterest in and disregard of force size by historians reflected some degree of disregard by military men, but it is not likely that their disregard was as complete as that of the historians. Nonetheless military men sometimes had reasons for having limited interest in enemy force size. (1) For the generals of the earlier and Napoleonic wars what was often crucial was the numerical balance at the point one hoped to attack. Maneuver and speed provided the possibility of achieving a tolerable or even favorable balance at this point even though total force size was unfavorable. (2) In all ages, nations often have had no alternative to fighting other than total liquidation and interest in a careful assessment of relative force size has often, therefore, been irrelevant to national and strategic decisions. Besides, the personal vanity, ambition and greed of rulers, or religious, dynastic and nationalistic passions were often more determinative of military action than the assessment of enemy force size or other military resources. This cavalier attitude was supported by the example of great commanders such as Frederick the Great and Charles XII who seemed to be little worried by an inferior force size. Frederick won victories with forces half the size of the enemy or even less, and Charles XII won battles when he was outnumbered anywhere from 2 to 1 to 5 to 1.¹²⁷ While still a cavalry commander, Lieutenant-Colonel (later Field Marshal) Suvorov (see pp. 7-8), ordered an attack on Prussian hussars stationed in a town. Asked whether it would not be wise first to ascertain their number, Suvorov

¹²⁶ Clausewitz, pp. 195-196.

¹²⁷ Fuller, vol. 2, pp. 165-166, 193-196. Probably the largest discrepancy in force size where victory went to the smaller force is an estimated 1:30 ratio when a small T'ang force, by a succession of clever tactics and deceptions, defeated the army of the Emperor Hia in 621 B.C. See Fitzgerald, pp. 96-106.

characteristically replied: "Why? We came here to beat them, not to count them!"¹²⁸

(3) In addition to the quality of leadership, troop morale, courage and patriotism were deemed to compensate in large measure for deficiencies in number. In addressing his troops, Alexander the Great pointed out that the troops of Darius were not their match in bodily strength or resolution. The superior number of Medes and Persians meant little for they had lived luxurious lives for centuries. Above all, the Macedonians were free men fighting slaves. The latter fought for pay, the Macedonians for Greece.¹²⁹ These and similar qualities have been cited, with considerable justification, ever since by military commanders with forces of inferior size. However, it is doubtful that this diminished the interest of later commanders in force size assessment as much as it had the interest of those that preceded them from classical times to the eighteenth century. (4) Size of force seemed largely irrelevant when a highly disciplined force was to meet one with little sense of organization, discipline, or coordination of effort, that is, military forces still fighting in the tradition of the *mêlée* of Homeric Greece, of ancient China, of the early Middle Ages or of many tribal battles. T. E. Lawrence's remark cited earlier (see p. 21) that a Turkish company was more than a match for 1000 Arabs illustrates the point. When the organized, disciplined troop also had the advantage of more advanced weaponry, as was generally the case in colonial warfare, numbers of the adversary were of even less interest.¹³⁰ (5) As we shall see below (p. 61), the development of advanced weaponry (nuclear weapons, "smart" weapons) has at times reduced concern with manpower differentials, but not always intelligence and assessment of them. (6) A complex of factors--weaponry, training, leadership, morale,

¹²⁸Longworth, p. 27.

¹²⁹Arrian (2.7), p. 112.

¹³⁰After a battle before Madras in 1744, the Marquis of Duplex became convinced that no native army, however numerous, could match a handful of disciplined European soldiers. Fuller, vol. 2, p. 218. The Nawab of Bengal inferred from the very small number of Europeans in India that the population of Europe was about 10,000. Ibid., vol. 2, p. 223.

planning and organization--may produce a sense of the importance of overall qualitative as against numerical superiority. General von Seeckt's boast in 1926, noted earlier (see p. 1), that the German 100,000-man army could defeat the French, represents such a discounting of the importance of numbers.

Despite these conditions and circumstances that at times reduced interest in and attention to force size, military leaders have generally been deeply concerned with establishing the size of foreign forces that they may have to meet or cooperate with. In Machiavelli's opinion, anyone who fought an enemy with forces three times greater than his own had only himself to blame if he lost. Obviously such a maxim meant that it was imperative to establish at least very roughly the number of troops at the disposal of the enemy.¹³¹ Clausewitz concluded that in modern (early nineteenth century) Europe, even the most talented general would find it difficult to defeat an enemy twice his strength in manpower.¹³² "Superior numbers are becoming more decisive with each passing day."¹³³ This followed from a related opinion: "Today armies are so much alike in weapons, training, and equipment that there is little difference in such matters between the best and the worst of them."¹³⁴ Napoleon had also attached much importance to numerical superiority. But he also said that ". . . the force of an army is to be judged by the mass multiplied by the speed."¹³⁵ Evidently according to this famous Napoleonic maxim, deficiencies in number can be compensated for by speed of maneuver, a factor that at times encouraged Napoleon and the Great Captains who preceded him to attack forces superior in number to their own.

¹³¹ Machiavelli, p. 835.

¹³² Clausewitz, p. 195.

¹³³ Ibid., p. 282.

¹³⁴ Ibid.

¹³⁵ Napoleon, pp. ix-xii, 39. Napoleon, who showed a negligible interest in technological developments significant for military life, seemed deeply conscious of the theoretical or pure science developments of his age, especially in mathematics and mechanics. The maxim cited above is only one indication of this interest in pure science. He believed that military science was a far more difficult subject than mechanics and mathematics, and that the difficulty of military problems would make Lagrange and Laplace turn pale. Ibid., p. 204.

Early discussions of tolerable or non-tolerable discrepancies in force size tended to ignore whether one or the other of two forces was fighting an offensive or defensive battle. Such a distinction was largely relevant to siege warfare and a relatively few early cases--for example, Wallenstein's defensive victory at Nuremberg in 1632 over Gustavus, and the Great Condé's attacks on an entrenched Bavarian army in 1644¹³⁶--where one force was strongly entrenched and remained on the defensive. In modern times, as entrenching tools and entrenchments became more common, the distinction became extremely relevant. French military doctrine after World War I was dominated by the idea of the superiority of the defense. The offensive could only succeed if it had a superiority of at least 3 to 1 in manpower, 6 to 1 in guns, and 15 to 1 in ammunition fired.¹³⁷ Mobile warfare, the possibilities of surprise, the complications introduced by the threat of nuclear weapons make such dicta questionable. Nonetheless the 3 to 1 superiority required of the offense is still quoted in discussions of NATO strategy (see p. 61, n.148).

The threats stemming from the mass armies of the post-Napoleonic era supported by conscription and in Prussia by universal service, and the immense (by European standards) armies of Alexander I and Nicholas I could not easily be ignored by European general staffs. Numerical inferiority, however, like most inferiorities, was a considerable stimulus to the development of views that discounted its significance; reasons could be found to believe inferiority an advantage. In the late eighteenth-sixties, in the face of the increasing size of the Prussian army following Roon's reforms, the French found comfort in the argument that such large forces could not be effectively managed.¹³⁸

Authoritarian states and leaders seem to place special emphasis on large numbers, perhaps because a dictatorship finds it easier to impose the sacrifices that large numbers usually entail, perhaps also

¹³⁶ Liddell Hart, p. 65; Henry, p. 67.

¹³⁷ Watt, p. 69.

¹³⁸ Howard, p. 23.

because dictators find in large numbers a promise or manifestation of the unlimited force they want to exercise. Hitler emphasized numbers of planes over research and development.¹³⁹ When Goering was drawn into a discussion concerning design choices, he stated: "The Führer does not ask me *what kind* of bombers I have. He simply wants to know *how many!*"¹⁴⁰ Stalin and his successor seemed to have had a similar preoccupation with large numbers in the military field, thus following in the footsteps of the autocrat, Nicholas I, although with the Soviets large numbers have applied not just to manpower but also to certain classes of weapons deemed of decisive importance such as fighter aircraft and tanks.

Similar views may be found, apparently less frequently, in democratic polities, although a very dominating personality in the democratic political context may give such cases some similarity to those noted above. Roosevelt believed that the way to win a modern war was to have far more of everything than the enemy, that is, to win by sheer weight.¹⁴¹ In the post-World War II period the U.S. showed a predominant interest in technological sophistication, that is, in effect, where hard choices had to be made, in giving priority to quality rather than to quantity.¹⁴² The Soviet Union, on the other hand, has, at least until recent years, tended to compensate quantitatively for its qualitative lag. It is likely that the Soviet emphasis on quantity will continue even if and when it closes the qualitative gap with the United States. The Soviets seem in all things to seek insurance and assurance, and large numbers answer to these aims.

The emphasis on quality is not necessarily an exclusive post-World War II tendency. McElwee, discussing the progress in design of ships

¹³⁹ Mason, p. 257.

¹⁴⁰ Ibid., p. 261.

¹⁴¹ Taylor, "Roosevelt," p. 267.

¹⁴² In a B-36 hearing, Representative Paul J. Kilday showed an even-handed concern with quality and quantity. "Everything the enemy has we must have bigger and better." Cited by Kissinger, p. 39.

and guns, affirms that quality rather than quantity became the all-important factor in the arms race from 1890 onwards.¹⁴³ Admiral Sir Terence Lewin, however, states that at the turn of the century the Royal Navy encouraged the assessment of military power by counting, that is by number, through its conviction that the number of capital ships determined control of the sea, and through the national comparisons it made in this respect.¹⁴⁴ Wilhelm II had a similar preoccupation.

The emphasis on numbers may, as one might suspect, be accompanied by an emphasis on size. The Krupps, who had a long-standing passion for immense military products (Big Berthas, etc.), dating back to the early days of the firm, continued this into World War II. When the Soviet's wide-tread T-34's showed their superiority to German tanks, General Guderian, with the enthusiastic support of Hitler, ordered Krupp to produce self-propelled tank destroyers. Krupp produced a mammoth tank destroyer with a 100-millimeter cannon on a fixed mounting with a rather narrow field of fire. This was dubbed "the elephant" by German soldiers at the Russian front.¹⁴⁵ In 1942, Krupp moved a 1465-ton gun, "Big Gustav," to Sevastopol on double railroad tracks. This had as little value as the big Paris gun of 1918.¹⁴⁶ The Soviets, especially in Khrushchev's days, showed a passion for bigness in their nuclear weapons and missiles. This no doubt was motivated partly by the desire to impress and intimidate the western world and partly by technical handicaps, but it seems not unlikely that this tendency was also furthered by the moral support provided by the possession of gigantic and powerful objects. Just as the Russian leaders seemed to derive sustenance and support from bigness, U.S., Japanese, French and western people and military leaders generally derive satisfaction from efficient and effective miniaturization. Krupp, on the other hand, produced a supertank weighing 180 tons (three times the weight of the

¹⁴³ McElwee, pp. 273-274.

¹⁴⁴ Lewin, p. 5.

¹⁴⁵ Manchester, pp. 492-493. These turned out, indeed, to be "white elephants" at the Battle of Kursk where all ninety were rendered *hors de combat* through mechanical failure or Soviet action. Ibid., p. 494.

¹⁴⁶ Ibid., pp. 488-490.

German Tiger tank) and a "land monitor" that never saw combat that weighed a thousand (sic) tons.¹⁴⁷

Nuclear weapons discounted in some measure Soviet military manpower and the Soviets sought in nuclear bigness to compensate for this. Potential nuclear stalemate and limited wars, however, restored manpower and force size to most of their earlier importance. "Smart" weapons are thought to reduce, once more, the significance of large numbers, although like the French views in the late 1860s that less is superior to more (see p. 58) western theories of the reduced value of numbers in offense may be somewhat biased by western numerical inferiority in NATO.¹⁴⁸

The various emphases and counter-emphases by military establishments on numbers and size are not equivalent to observation and assessment of them in foreign forces. But they help us to understand why the briefest examination of most accounts of foreign military forces demonstrates that number is a major dimension of observation and assessment. Indeed, much criticism has been leveled against accounts of military forces that emphasize numbers--that lend themselves to easy comparison--to the neglect of qualitative factors.

B. LEADERSHIP

In contemporary military assessment, the armed forces of a nation are usually a far more important object of interest and attention than the military leaders who command them. In the modern world it seems much easier to foretell the likely course of armed conflict from the size, composition and weaponry of the forces engaged than from the character of their commanders.¹⁴⁹ Ancient Chinese military prescriptions, on the contrary, emphasized the need to know who the enemy's generals were. If one did not know their qualities, small-scale

¹⁴⁷ Ibid., pp. 491-492.

¹⁴⁸ See, for instance, statements that on land the offense needs a 3:1 superiority. Lewin, p. 5.

¹⁴⁹ On the other hand, the intentions of foreign powers may sometimes be more deducible from the character of the political and military leaders than from the capabilities they have acquired. In any case, assessment of intentions will certainly utilize knowledge of both leaders and capabilities.

attacks followed by flight were recommended for assessing their capabilities.¹⁵⁰ Hannibal's victory over Flaminius and Caesar's over Pompey are thought to have been greatly facilitated by their understanding of the minds of the enemy commanders and their consequent ability to predict the enemy leaders' reactions in certain situations.¹⁵¹ In pre-modern wars, attention to the top commanders was pronounced, and when the Great Captains led forces their reputations often ensured that they were as great or a greater matter of attention than the forces they led. The presence of a Great Captain had a twofold importance: its inspirational impact on his own forces, and the fear it inspired in the enemy. Consequently, the prediction of success or failure in arms was likely to be assessed by whether a Great Captain was in charge or not. Alexander the Great, Caesar, Gustavus Adolphus, Marlborough, Frederick the Great and Napoleon come immediately to mind in this connection. Napoleon provided the last significant case of a supreme political leader who was supreme military commander and field commander as well. Naturally such a military leader is much more an object of interest and observation than one who performs only one of these three functions. However, a single commander could not lead the mass armies of the Napoleonic wars and this brought the division and the field army into prominence as military units and multiplied the number of important military commanders.¹⁵²

When Alexander crossed into Asia, Memnon of Rhodes advised against risking an engagement since Alexander was present in person while Darius was not. When Alexander approached the Cilician gates, "the knowledge that Alexander was coming upon them in person was too much for the enemy . . . who fled." Both in the attack on Bessus and later in the attack on forces led by Porus' son, the enemy "fled the moment they saw it was Alexander himself who was upon them."¹⁵³ The significance attached to

¹⁵⁰ Sun Tzu, p. 163.

¹⁵¹ Liddell Hart, pp. 26, 34.

¹⁵² Goerlitz, pp. 11-13.

¹⁵³ Arrian (I.13) p. 69, (2.4) p. 106, (3.22) p. 184, (5.15) p. 275.

great military leadership is nicely expressed in the following message sent by King Anandapala to Prince Mahmud. "I have learned that the Turks have rebelled against you and are spreading in Khurasan. If you wish, I shall come to you with 5,000 horsemen, 10,000 foot-soldiers and 100 elephants, or, if you wish, I shall send you my son with double that number."¹⁵⁴ It seems likely that whether these forces were led by the king or by his son would be of importance not only to Prince Mahmud, but also to his enemies, the Turks. The Venetian admiral, Francisco Morosini, operated so successfully against the Turks in the Eastern Mediterranean that when he undertook his last campaign in 1694 in his seventy-fifth year, the Turks withdrew rather than risk battle against forces led by him.¹⁵⁵ Two engagements were won by Charles XII over the Russians (before his defeat at Poltava) more by the terror of his name than by force of arms.¹⁵⁶ Wellington used to say that Napoleon's presence on the field of battle made a difference of 40,000 men. Later, Wellington seemed embarrassed by this statement and explained he did not mean this literally but was *simply referring to the advantage conferred on the French by their unity of political and military command.*¹⁵⁷ Nelson felt that Napoleon, in his turn, needed to be impressed by English military leadership. At the Nile, Nelson wrote "Buonaparte had never yet to contend with an English officer; and I shall endeavour to make him respect us."¹⁵⁸ Respect, not unmingled with some awe, seems to have been inspired by General Curtis LeMay in visitors to his SAC headquarters; it is not unlikely that his reputation for perfection, dedication and toughness reflected in accounts of him published abroad as well as in the United States had some effect on the Soviets.

¹⁵⁴Caroe, pp. 121-122.

¹⁵⁵Keegan and Wheatcroft, p. 236. Morosini is also remembered because it was in capturing Athens from the Turks that a Venetian shell blew up a Turkish powder store in the Acropolis and left it in ruins.

¹⁵⁶Fuller, vol. 2, p. 173.

¹⁵⁷Stanhope, pp. 9, 80-81.

¹⁵⁸Letter of August 9, 1798, in Wragg, p. 187.

The Great Captain has an equally inspiring effect on his own troops, assessment of whose morale and fighting qualities varies according to whether the Great Captain is present or not on the battlefield. According to Caesar, the naval battle against the Veneti was fought very bravely, particularly because it "was fought under the eyes of Caesar . . ." When Caesar's commander, Labienus, was in dire straits, he urged his men "to imagine that Caesar . . . was present in person." Caesar on occasion wore a scarlet cloak to ensure that his presence was known to the enemy and to his own troops.¹⁵⁹ At the battle of the Granicus Alexander was "an unmistakable figure in magnificent armour, attended by his suite with an almost ecstatic reverence."¹⁶⁰ After the battle of Rivoli, Napoleon by a quick march joined the blockade of Mantua, and the French forces, "proud of fighting under the eyes of the victor of Rivoli," forced the garrison of Mantua to retire into the city.¹⁶¹

The importance of the Great Captains in early military assessment is also reflected in the fact that both in the case of Napoleon and Alexander the Great the enemy circulated lies concerning their deaths. Machiavelli in discussing deception in battle recommended spreading rumors that the leader was dead.¹⁶² The Austrians and other enemies of Napoleon followed this advice in spreading rumors of his death. When Gustavus was killed in the Battle of Lützen in 1632, Duke Bernard who took command did what he could to prevent the news from spreading.¹⁶³ When Wolfe was fatally wounded on the Plains of Abraham he cried to those around him: "Support me, support me, lest my gallant fellows should see me fall."¹⁶⁴

¹⁵⁹ Caesar (3.7-19) p. 100, (7.54-67) p. 216, (7.68-90) p. 232.

¹⁶⁰ Arrian (1.15), p. 72.

¹⁶¹ Henry, p. 62.

¹⁶² Machiavelli, p. 819.

¹⁶³ Spaulding and Wright, pp. 483-484. Fuller states that the death of Gustavus did not dishearten his men, but filled them with fury. Fuller, vol. 2, p. 71.

¹⁶⁴ Ibid., vol. 2, p. 267.

The morale effect of leadership is, of course, present in modern armies although less conspicuously so. In World War II the devotion of many soldiers to Patton, Rommel, Alexander, "Monty" (Montgomery) and others was very great. Admiral Yamamoto "was afforded a personal loyalty which bordered on the fanatical . . . To us, Isoroku Yamamoto virtually was a god."¹⁶⁵ His death after his plane was ambushed by U.S. fighters following a radio intercept was a severe blow to the Japanese forces.¹⁶⁶ It is, no doubt, a tribute to Admiral Yamamoto and Field Marshal Rommel that they were apparently the only two enemy leaders that the Allies made planned attempts to kill. Only the attack on Yamamoto succeeded.¹⁶⁷ In World War II, the Soviets seemed to find, and perhaps preferred to find, in a great but dead Russian general, Field Marshal Suvorov (see pp. 7-8, 55-56) a figure to provide this morale building effect.¹⁶⁸ Today, the substantial number of specialists who study the political-military leadership of major nations provide a massive amount of attention to commanders-in-chief such as Churchill, Hitler, Stalin and Roosevelt as well as to the outstanding field commanders of World War II. But much of the attention to military leadership is historical and concerned with past wars.*

During World War II commanders were keenly interested in each other's qualities. On the other hand, interest in and assessment of military commanders in peacetime, that is prior to the onset of hostilities, is weaker in the modern period. This reflects, in part, the fact that today at the top command levels, organization and planning, that is, general staff functions, rival or displace field generalship in importance. The latter has also been reduced in importance by the greater role of junior officers and NCOs in modern warfare.¹⁶⁹

¹⁶⁵ Okumiya, pp. 196, 203.

¹⁶⁶ Ibid., p. 170.

¹⁶⁷ Keegan and Wheatcroft, p. 352.

¹⁶⁸ Longworth, p. 305.

¹⁶⁹ Howard, p. 7.

* See Appendix A, n.6.

But field commanders may be the object of special attention prior to war in those cases where they have already acquired a distinctive reputation from past wars. One of the most striking instances where information concerning commanders stemming from one war was carried over to another was the success of Colonel Max Hoffman who provided Hindenburg and Ludendorff with the plan that led to the defeat of two Russian armies at Tannenberg in 1914. Hoffman's insight into General Rennenkampf and General Samsonoff who led the two Russian forces derived from the fact that as an observer in the Russo-Japanese war he had learned that the two Russian generals boxed each other's ears on the platform of the railway station at Mukden. He assumed, therefore, at Tannenberg, that they would not be able to collaborate effectively and built his plans, correctly as it turned out, on this assumption.¹⁷⁰ For the most part, however, reputations are acquired during war itself and, therefore, do not greatly affect pre-war assessment of military leadership.

C. WEAPONRY

(1) Arms and the Man

For Mao, man is the decisive factor in war. This view is understandable in the case of military and political leaders whose forces are less well-equipped than those of their enemies and one of whose principal assets is manpower, especially if that manpower is inspired by ideological, nationalistic or religious fervor. It is also understandable in those for whom elements of the heroic or chivalric ethic shape their view of war. The supporters of cavalry before World War I and in the inter-war period were joined by others who, especially in France, were antagonistic to mechanization (see p. 27 above) and even felt that the typewriter was a demeaning instrument for an officer to use.¹⁷¹ Others, like Napoleon, seem to take the same position as Mao

¹⁷⁰ Walder, p. 294.

¹⁷¹ Myszyrowicz, p. 153. There is an old story about the Edwardian lieutenant who in an oral examination was asked what the role of cavalry was in modern warfare and answered: "Sir, it is, I suppose, to give a bit of class to what would otherwise be a mere vulgar brawl." Gellner, p. 38.

because factors such as morale, discipline, training, patriotism, and similar military virtues are viewed as more important than weaponry.

Unfortunately, if one examines a little more closely the phrase, "man is the decisive factor in war," its meaning becomes highly ambiguous. If two forces are similarly equipped and are of equal size, the phrase is trivial. When forces are not equally well-equipped but are still of equal size, the phrase presumably means that the more courageous, disciplined, and better motivated force will be victorious even if less well-equipped. But by how much less well-equipped? An unarmed brave man will not usually be a victor over a coward with a pistol in his hand. How much superior--and in what dimensions--must a man be to compensate for a given advantage in weapons? Further, does "man is the decisive factor" refer only to the troops and junior officers or also to the skill of the top commanders? Unless Mao's maxim is expanded to answer the above (as well as other) questions, it has largely a sentimental significance--if it is not simply politically motivated.

As a subject for empirical inquiry "man is the decisive factor," even if more precisely defined, raises refractory questions. Was the battle of Midway won by superior seamanship, command skill, or by the advantage conferred by radar on the U.S. battle fleet?¹⁷² Or by some interaction of these three? Were the victories of Gustavus Adolphus due to the quality of his highly disciplined and well trained¹⁷³ troops or to his innovations in musketry and artillery? Or to the combination of the two? And if the latter, does it make sense to say one or another factor is "decisive"? Did Alexander the Great in the battle of the Granicus gain a victory because of his more experienced troops or because the long Macedonian spears (13 to 14 feet) were superior to the

¹⁷² Okumiya, pp. 123-125.

¹⁷³ The benefit provided by training is readily measured but this does not answer the present question. John A. Muller, in his *Treatise of Artillery* (1768), reported that muskets fired at 100 yards by "well trained" and "ordinary" soldiers achieved 53% and 40% of hits respectively; at 200 yards 30% and 18%; at 300 yards 23% and 15%. These figures represent firing at targets. As Hughes points out, these figures would have to be degraded for firing against a line of infantry. Hughes, p. 27n.

light Persian lances. Arrian attributes victory impartially to both factors.¹⁷⁴

Soviet emphasis on conventional forces during the nuclear era, on the cultivation of heroism (see p. 18 above), and on the political motivation of troops represent an emphasis on "the man." U.S. concern with technological advances and with providing soldiers with the most effective equipment rather than with patriotic devotion, represents, on the contrary, an emphasis on his arms. American perception and assessment are only in a minor degree oriented toward the nature of "the man" in the enemy forces,¹⁷⁵ although, interestingly enough, dissatisfaction at times with allies has led to appreciable concern with the fighting spirit and loyalty of West Europeans. The Soviets, on the contrary, in their perceptions and assessments attach considerable importance to the personal qualities and motivations of "the man" in western forces without, of course, diminishing their interest in his arms (see p. 18 above and p. 78 below).

(2) Images¹⁷⁶

One aspect of "man is the decisive factor in war" does not seem to be given adequate attention. It may well be in some circumstances that it is not "man" that is the decisive (or let us simply say an important) factor but rather the *image* of him held both by the enemy and by the "man" himself. These two may affect each other. We have already had several occasions to note that the image of the self may shape in some measure the image of the other (see pp. 5-6, 22-26, 38-39); the image of the other may also shape the self-image. Certainly we know that the other's image of you, can shape your self-image.¹⁷⁷

¹⁷⁴Arrian (1.15), p. 73.

¹⁷⁵For two studies which do deal with "the man" in the enemy forces, see Dicks and Shils, and Goldhamer, 1975.

¹⁷⁶In discussing restraints on observation and assessment, we already had occasion to deal with images of the self and of the enemy involved in assuming that the enemy is like oneself (see pp. 22-26). That discussion is highly pertinent to the present section.

¹⁷⁷This theorem derives in considerable measure in modern times from the work of the American sociologists Cooley and Mead. [See also Appendix A, n.7. (Ed.)]

This is frequently used, consciously or unconsciously, to strengthen morale. Speaking of the French Foreign Legion, Anthony Mockler remarks ". . . the myth produced the reality: portrayed as heroes in fiction, the legionnaires died heroically in fact."¹⁷⁸ General von Seeckt, in developing the post-Versailles 100,000-man German army, provided the small units of the army with the standards, battle flags and names of the most famous regiments of the German Imperial army, hoping thus to salvage traditions and *esprit de corps* that otherwise would have died out. It is also, of course, possible to try to impose on enemy forces self-images destructive of their morale (see p. 75).

These images of the self and of the other have had important consequences for the observation and assessment process.*

General Giap, speaking in 1967 of the people of Vietnam, characterized them as "a power able to displace mountains and to fill rivers. This power is indestructible."¹⁷⁹ This self-image is characteristic for the densely populated Vietnamese and Chinese societies. The images stimulated by a dense and seemingly inexhaustible manpower have strengthened Chinese and Vietnamese morale and influenced economic and military strategy. These images are also present in American perceptions of the Chinese and the Vietnamese. David Schoenbrun, in his Introduction to General Giap's *Total Victory, Great Task*, speaking of the impression created by the legion of porters refers to "these columns of ants . . . in innumerable masses." He also describes a Vietnamese truck stuck in a river bank before a bridge and judged that it could only be moved by a crane. "From a neighboring village arrived a cloud of peasants . . . they swarmed about the truck like ants about a piece of sugar . . . and in less than an hour the truck was on its way again."¹⁸⁰ Films of the Chinese masses building dams convey a similar image. The image of the Vietnamese as innumerable ants is the counterpart of an image of the U.S. common in many parts of the world, especially during the Vietnamese war, as a giant or a mastodon whose size and power does

¹⁷⁸Mockler, p. 131.

¹⁷⁹Giap, p. 15.

¹⁸⁰Schoenbrun, pp. 8, 9.

* See Appendix A, n.8.

not foretell victory but rather ensures that the United States will sink deeper and deeper into the mire.¹⁸¹ "The American imperialists and their lackeys sink more and more into the mud and are reduced to complete passivity."¹⁸² A somewhat similar thought is expressed in the statement that U.S. bases in Vietnam are like islands lost in the vast sea of the people's war.¹⁸³ The tendency to see the enemy in vivid, often animal, images seems common in the Far East. Kissinger noted after his visit to China in 1975 that the Chinese think of the United States as a wounded tiger, probably a compliment compared with a paper tiger.¹⁸⁴

Even when an analyst shows admiration for U.S. capabilities, the image of the mastodon or giant may lurk behind it. After being out-paced by the Soviets in the space race (at least in most western views) the U.S. in its Apollo program began to convince its allies and critics that it had finally caught up with the Soviet Union. An editorialist in *Le Monde* wrote: "Heavily, powerfully, the American machine began to move."¹⁸⁵ In short, the American mastodon or giant finally wakes from his sleep, overcomes the inertia imposed by his own enormous weight and slowly moves toward action.

The dense population of Asian countries does not in itself guarantee images similar to those that we have discussed above. The Japanese in World War II with their highly advanced imported western technology and industrialization certainly did not view themselves as so many innumerable ants, nor consequently did they view themselves as swarming over a lethargic U.S. giant. Japan itself was in its own way a giant, if not on the same scale as the United States. In

¹⁸¹ This theme appears in ancient Indian literature, in *The Panchatantra*, p. 326, in the following formulation:

Beware the populace enraged;
A crowd's a fearsome thing;
The ant devoured the giant snake
For all his quivering.

¹⁸² Giap, p. 24. [See also Appendix A, n.9. (Ed.)]

¹⁸³ Ibid., p. 45.

¹⁸⁴ *The New York Times*, October 24, 1975.

¹⁸⁵ *Le Monde*, October 5, 1967.

Japanese military circles, once the war began, the U.S. was viewed as being able to move with incredible speed and flexibility; besides U.S. military accomplishments in the Pacific were very different from those in Vietnam.

There are additional self and other images that played a role in General Giap's thinking. To him the United States is an impatient foe who by temperament and political necessity needs to finish the war in Vietnam quickly. For this reason, the United States throws many men into the battle.¹⁸⁶ The Vietnamese, on the other hand, are seen as a patient, long-enduring people who have fought the colonialists from 1946 to the present and can continue to fight for five, ten, twenty or more years if necessary. The ultimate issue in the battle between David and Goliath is confidently awaited as a further victory in the series of rebuffs that the Vietnamese have given foreign invaders beginning with Chinese invasions of the first century B.C. down to the French, Japanese, and American invasions of modern times.¹⁸⁷

Are these various images of significance in political-military life? It is very likely that they are. They do seem to have influenced American and foreign critics of the war in Vietnam. The Russians may make comforting calculations concerning their military power relative to that of the Chinese Peoples' Republic, but it is likely that the image (and not simply the bare numerical facts) of those vast Chinese masses has unsettling effects. Many Asians, in their turn, probably derive comfort and encouragement from the sense of their numbers appreciated not simply as a census statistic but as a palpable, vibrant force. Such suppositions are difficult to prove, but here at any rate we are primarily concerned with objects of military attention, and on this score there is no doubt that images of the other and of the self have been the focus of considerable attention; this we can also see from the illustrations that follow.

¹⁸⁶ Giap, pp. 34-36, 43-44, 20-25.

¹⁸⁷ Ibid., pp. 8, 108.

The image of the enemy as a swarm of innumerable ants that can drive the giant opposing it mad with its innumerable stings, gives way in other military and historical contexts to a rather different image. Here the individuals who compose the enemy's force lose their individuality as a mass of disparate antagonists and because they are organized into a solid, *closed formation* give, in the words of Ibn Khaldun, the frightening impression of a long wall or castle, especially frightening because this long wall or castle, like Birnam wood, has the ability to move steadily and irresistibly upon one. What is involved here is the North African Arab image of the typical European force. This image was all the more striking to the Arabs because it contrasted sharply with the Arab forces as an unorganized horde.¹⁸⁸ Such an image of the European enemy was by no means confined to North Africa. It emerged wherever relatively undisciplined and unorganized forces faced a "solid mass," to quote Arrian, that moves upon them with the relentless, frightening progress of something superhuman--a machine. The Getae when they faced the "fearful sight" of Alexander's phalanx, turned and fled.¹⁸⁹ Similarly, Caesar notes that when "the serried ranks of our legions came into view . . . [the] sight gave the enemy such a shock that [he] fled . . . with loud cries of terror . . ."¹⁹⁰ Machiavelli, who studied classical and contemporary military experience with care, concluded that "people without discipline fear a regulated body of soldiers."¹⁹¹ Military history is full of similar descriptions in which the incorporation of the individual soldier into a highly structured formation that can move without losing structure or showing any disarray, seems in the eyes of the enemy to convert the formation into something superhuman and immensely frightening. The force of the individual is enormously multiplied when he is no longer a distinctly perceived entity but is part of a formation

¹⁸⁸ See Ibn Khaldun, vol. 2, pp. 74-75 and also in the present text, p. 21 above.

¹⁸⁹ Arrian (1.4), p. 48. [See also Appendix A, n.10. (Ed.)]

¹⁹⁰ Caesar (8.24-29), p. 250.

¹⁹¹ Machiavelli, p. 833.

that moves with the rhythm and orderliness of a machine.¹⁹² When Charles VIII entered Rome in 1494 a local chronicler noted the long columns marching by *in step* to the beating of drums with "unbelievable order."¹⁹³ The stern silence of such advancing troops, imposed sometimes by insightful commanders, contrasted with the shouts and other noises of the enemy and gave to the advancing formation an even more awesome, inhuman character.

Before the walls of Troy "the Trojans raised a loud din and clamour. . . . But the Achaians marched in silence, breathing fury . . . with grim determination."¹⁹⁴ Alexander was aware of the effect of steady advance plus silence and at the battle of Gaugamela reminded his troops to advance in complete silence, but at the right time, apparently when about to close with the enemy, "to roar out their battle-cry and put the fear of God into the enemy's heart."¹⁹⁵ No doubt the roar following such complete silence was much more effective than the practice of some troops to be prodigal with their shouts and cries. Machiavelli says that in ancient armies the cavalry uttered great cries but the foot soldiers maintained total silence. This permitted an army to have both the advantage of the cries and the silence that enabled the foot soldiers to hear the orders of the captains.¹⁹⁶ The British had a long tradition of advancing in silence, and at Blenheim "the rigidly-dressed scarlet line moved forward in complete silence."¹⁹⁷ At Culloden, despite the Highlanders attempt "to huzza and bravado [the English]

¹⁹² Sombart thought that marching in step was a symbol that represented in Greece and Rome and later in Switzerland, Sweden and Prussia, the role of organization and hence mind in military activity. Sombart, pp. 28-29. The subordination of the individual and the strength of the "machine" is especially clear in parade ground evolutions and in such practices as the goose step, introduced by the British and taken over by the Germans.

¹⁹³ Mockler, p. 90.

¹⁹⁴ Homer, *The Iliad* (Book III), p. 39.

¹⁹⁵ Arrian (3.9), p. 162.

¹⁹⁶ Machiavelli, pp. 812-813.

¹⁹⁷ Hughes, p. 81.

. . . we could not induce them to return one. . . they continued proceeding, like a deep and sullen river."¹⁹⁸ In 1755 Wolfe gave orders to his battalion "not to halloo, or cry out, upon any account whatever . . . till they are ordered to charge with their bayonets." It is not surprising, then, that on the Plains of Abraham in 1759 the English stood silent, like a wall, while the French advanced with loud shouts.¹⁹⁹ In the nineteenth century wars "when the British were defending, their scarlet line stood silent, motionless and menacing."²⁰⁰ The French, on the contrary, were given to cries and shouts. When enemy fire cut down some members of the first ranks, the closing up of the gaps by the rear ranks and the steady unfaltering progression of the formation became still more frightening, and often caused the enemy to panic and flee even when a steady rate of fire or a single volley might have finally decomposed the formation into a disorderly mass. In the eighteenth century, infantry were trained to move "with the synchrony of a single machine,"²⁰¹ but this seems to have been often motivated by a need for discipline rather than for the effect on the enemy, which it nonetheless seems to have had.

* * * * *

Certain self-images had unfortunate military consequences because they led to false images of the enemy and consequently to wrong inferences and decisions.* During World War II, confidence in the famous British stiff upper lip produced a conviction in some military and political circles in Britain that German morale would not equal that of the British under terror bombing, and that such bombing might well lead to a German revolt.²⁰²

¹⁹⁸Prebble, p. 59.

¹⁹⁹Fuller, vol. 2, p. 266.

²⁰⁰Hughes, p. 108.

²⁰¹Goerlitz, p. 7.

²⁰²Quester, p. 120.

* See Appendix A, n.11.

Mao, whose military writings reflect a considerable interest in the self (the Red Army, the Party) and less interest in perceptions of others pointed out that in the early days of the Red Army many elements developed a self-image or self-characterization imposed upon them by the bourgeois enemy and thought of themselves as outlaws. This self-image was a handicap in ideological training and morale and also led to disciplinary problems, since outlaws felt it entirely appropriate to loot or engage in other activities that endangered the Red Army's relations with the Chinese peasants and townspeople.²⁰³ Despite what seems a greater interest in the self than in the other, Mao wrote, "Some people are intelligent in knowing themselves but stupid in knowing their opponents, and others are the other way round; neither kind can solve the problem of learning and applying the laws of war."²⁰⁴ In this, of course, he was simply following Sun Tzu's well known dictum: "Know the enemy and know yourself; in a hundred battles you will never be in peril."²⁰⁵

Some elements of a population, usually those that resent the powerholders in a society or the Establishment, are prone to be pre-occupied with the wickedness of the self and to see the potential enemy in a much more favorable light. Thus, prior to the Franco-Prussian War, French "liberals" viewed the French military as a constant provocation to a peaceful Prussia.²⁰⁶ Nor were the French "liberals" and pacifists of the pre-World War II years immune from this tendency to condemn one's own nation and ignore dangers from abroad.²⁰⁷ U.S. "liberals" too have seen the U.S. military-industrial complex as risking war, and seem less concerned with the risks of war occasioned by Soviet behavior.

One of the most common and dangerous of self--and other--perceptions is the tendency to believe that one's own situation is

²⁰³ Mao, 1968, p. 65.

²⁰⁴ Mao, 1954, vol. 1, p. 187.

²⁰⁵ Sun Tzu, p. 84.

²⁰⁶ Howard, pp. 37-39.

²⁰⁷ This point is extensively documented in Mysyrowicz, *Autopsie d'une défaite*.

worse than that of the enemy.²⁰⁸ In 1871 the French thought themselves to be so much worse off than the Germans that Gambetta could not persuade them to continue the war. The Germans, on the contrary, were much less convinced of the hopelessness of the French position.²⁰⁹ Suvorov did not overly preoccupy himself with the weaknesses of his own forces. He concerned himself much more with the enemy's problems and fears.²¹⁰ Napoleon, reproaching a commander for an unnecessary retreat, remarked: "In war, one sees one's own difficulties and does not see those of the enemy."²¹¹ This insight was shared by the Chinese. Hsü Hsueh-fan, speaking of defending a besieged town, wrote that gifts of nature are as a rule evenly distributed. The enemy are not all brave and brilliant nor one's own troops cowards and stupid. One cannot take for granted that the enemy despises death and is ready to risk his life more than anybody else.²¹² Despite repeated warnings about this tendency, it is no less present today than it has been in the past. U.S. and Western perceptions of the Soviets and of the self often reflect this lack of self-confidence and the attribution of superior qualities to the enemy.²¹³ "Worst case analysis" incorporates in some measure such attitudes into a system of strategic analysis.²¹⁴

²⁰⁸ Of course, self-depreciating views may be perfectly justified. The Gauls, repeatedly defeated by the German tribes, did not even pretend to compete with them in bravery. Caesar (6.21-28), p. 38. The twentieth century Italians, without any military pretensions or notable military successes, had, in a three-year period preceding Mussolini, ten ministers of war imposed on them by politicians contemptuous of the military. Watt, p. 43. Some self-depreciating views are intended to mislead the enemy. [The draft at this point contained a cross-reference to "an interesting Soviet case" which apparently was never written into the manuscript. (Ed.)]

²⁰⁹ Howard, pp. 371-373.

²¹⁰ Longworth, pp. 27, 308.

²¹¹ Napoleon, pp. 160-161.

²¹² Franke, p. 175.

²¹³ See Goldhamer, 1975, Chapter 10.

²¹⁴ When, in Shakespeare's *King Henry V*, the dauphin, referring to the English invasion, says

In cases of defense 'tis best to weigh

The enemy more mighty than he seems (II, iv)

he is urging that too much is better than too little and not that the enemy is in any way superior.

Of course, over-confident self-images also are frequent. In 1806 some Prussian military men had a quite foolish belief in Prussian superiority over the French. A Prussian colonel epitomized this when he said, "there would be no difficulty in driving the French curs out of the country with cudgels."²¹⁵ Some French military men, in their turn, immediately after World War I, thought that France was now master of the art of war and had replaced Germany as the leader in strategic thought. English, U.S., Russian and German interest in tank warfare was seen by the French as stemming from the various disagreeable national characteristics and difficulties of these errant nations, characteristics and difficulties from which the French were free.²¹⁶ A few years later French attitudes on military affairs tended toward self-depreciation and an exaggerated view of German capabilities. Hitler was well aware of the dangers of a too-optimistic image of the enemy and told his staff: "One must always attribute to the enemy what is most disagreeable for oneself."²¹⁷ In Kissinger's view the fact that the U.S. won two world wars by outproducing the opponent has induced it to equate military superiority with resources and technology, although history shows that superior strategic doctrine has led to victory at least as often as superiority in resources.²¹⁸ It is not quite clear that the U.S. "won" two world wars, and U.S. reliance or emphasis on technology certainly has other and probably more important sources than its experience in World War I and World War II. But Kissinger is probably right in emphasizing, in effect, that U.S. optimism based on technological superiority led to a relative neglect of strategic doctrine, and, although Kissinger does not mention this, to an even greater neglect of grand strategy.

²¹⁵Goerlitz, p. 26.

²¹⁶Mysyrowicz, pp. 123-127.

²¹⁷Irving, 1975, p. 312.

²¹⁸Kissinger, pp. 21-22.

(3) Weaponry

Like force size, weaponry is relatively easy to observe and at the same time is viewed as a highly important object of intelligence and assessment, the second virtue, no doubt, being in part an effect of the first. Military assets, such as morale, discipline, staff organization and work, administration, and doctrine are often neither easy to observe nor to evaluate, and this leaves attention and emphasis free to concentrate on the more visible and assessable military assets.²¹⁹ This does not mean that weaponry is not a highly significant aspect of military power but only that it achieves a prominence relative to other dimensions of military power that is not entirely due to its intrinsic importance.

Doctrine, logistics, generalship, discipline, and so forth, mediate the application of weapons, but the weapons themselves are the immediate purveyors of death and terror.²²⁰ Since these are what an army in the field during battle seeks to inflict, weapons become an important object of attention to both the troops and their commanders; all the activities that led to their development, production, tactical and strategic uses, and to their present deployment on the field of battle have already occurred, leaving the weapon itself as the prime object of attention. Stalin, however, speaking in 1941, of the "permanently operating factors" that determine the outcome of war did not attach high importance to weapons. In the place of honor at the head of Stalin's list of permanently operating factors was "the stability of the rear." In second place came the morale of the forces, and in third place, the number and quality of divisions. Weapons took only fourth place, followed in fifth and last place by command abilities.²²¹ U.S. and Western emphasis has been different; relatively

²¹⁹ There are, however, differences in this respect between the United States and the Soviet Union. See p. 68.

²²⁰ In pre-modern wars, terror was likely to be viewed as stemming from the cruelty of man; in the contemporary period from the destructiveness of weapons, although man has certainly not been exculpated. Contemporary terrorism revived the concentration of attention on the terrorists rather than on his weapons.

²²¹ Stalin, p. 45. [See also Appendix A, n.12. (Ed.)]

little attention has been paid to the rear.²²² A study of U.S. documents on these matters might reveal the following ordering: weapons, number and quality of divisions, command skills, morale of troops, and stability of the rear.

Weaponry is far from homogeneous with respect to observability and especially assessability. Military history is full of stories of the failure of political and military leaders to see the value of certain innovations and to adopt them. These accounts tend to impart to the history of weaponry an emphasis on the difficulties new or improved weapons have in winning acceptance. The conservatism or ignorance of military and political leaders that these accounts reveal certainly should not be discounted, but if we view military history, as we have the right to do, on a scale of about 3000 years, the fact that a particular weapon took five, ten or twenty years to win acceptance takes on a somewhat different character. On the other hand, when a small portion of military history is viewed through the magnification provided by separate, detailed study, the failure to adopt a particular weapon with the speed and total commitment that were feasible may appropriately be judged to be among the most significant events of the period. Portions of military history remote in time and place tend to be viewed on the total scale of military history. Thus the spread of the stirrup, introduced in China about A.D. 600, to the Mongolian nomadic border tribes and through them to Europe, is usually described as "rapid," as an adoption made "with little delay." In fact, however, the stirrup did not reach the Mediterranean until about the eighth century A.D.,²²³ so that at least a hundred years intervened between its Chinese invention and its Mediterranean adoption. In a contemporary or modern context a ten year delay by major military establishments in adopting a weapon or technical aid of obvious worth, say the machine gun, tends to be viewed, no doubt justly, as highly culpable ignorance or negligence. However, it is sometimes overlooked that the negative or lukewarm assessment of a new weapon may represent

²²²The relative disregard of civil defense in the United States is evidence of this. See p. 23 above.

²²³Garlan, p. 122.

a certain sophistication in the assessment process rather than a stupid conservatism. Failure to adopt has sometimes been due to an appreciation of the cost of the new weapon both economically and politically²²⁴ and therefore represented a cost-benefit view of assessment. The German air ministry in the immediate prewar period, in need of a new reconnaissance and ground support plane, avoided advanced designs like the FW-189 and chose the conventional Henschel-126 whose unit costs were one third less.²²⁵

Resistance to adoption was sometimes the result of a view of war that rejected the inhumanity of some weapons or their conflict with chivalric notions. Killing "at a distance" (especially officers!) was at first viewed as barbarous. These views may not be acceptable today, but they should not be treated as equivalent to a myopic conservatism or ignorance. When the Italian chemist, Poli, successfully demonstrated the military potential of a poison gas on a flock of sheep in France, Louis XIV said: "This is abominable. This man must be locked up."²²⁶ Under Louis XV, a certain Dupré invented a fire (presumably a reinvention of "Greek fire") "so rapid and all-devouring that even water could not extinguish it." Experiments in the Versailles canal "made everyone shudder." But the king forbade use of it and paid Dupré to keep silent about his discovery. In 1799 the French minister of the Navy rejected the invention of a hollow cannon-ball that had the double power to penetrate enemy ships and to set them on fire. The minister noted that several new inventions had been proposed to the English as well but added that "there are no grounds for thinking that they would make use of these inventions that cannot be adopted by civilized nations."²²⁷

²²⁴"Politically," because new costly weapons like the cannon or musket meant a decisive change in responsibility for the arming of soldiers. Not the knight, nor later the regimental commander, but the state finally had to undertake these responsibilities. This tended toward the uniformization of weapons. See Sombart, p. 83.

²²⁵Mason, p. 256.

²²⁶Montesquieu, pp. 231-232. After a promise to burn his secret, Poli was made a member of the French Academy.

²²⁷*La Chronique Versaillaise*, No. 802, September 20, 1945.

Private individuals also imposed various degrees of secrecy on new weapons--Roger Bacon on his formula for gunpowder, Tartaglia on his ballistic calculations (which he revealed when a Turkish invasion of Italy threatened), John Napier, who after the threat of the Spanish Armada had ended, tried to keep his inventions secret, and Robert Boyle who paid a scientist to keep him from revealing a new explosive.²²⁸

Although the secrecy imposed by private individuals was surely due to humanitarian impulses, one is led to wonder, perhaps unjustly, in the case of Louis XIV and Louis XV whether opposition to new weapons of great destructiveness might not have been motivated by a fear that they would render war as an instrument of policy impossible or at least less rewarding. Perhaps they simply sought to avoid radical changes in a preferred style of warfare. Opposition to nuclear weapons among scientists, government personnel and the public has continued an attitude to new, powerful weapons that is at least 500 years old.

The perception, assessment and rapid reception of new weapons may be affected by certain sensational qualities and by their novelty rather than by their effectiveness. For years after firearms were introduced, the archer with a longbow could outshoot his competitor, but he and his weapon were wrongly viewed as obsolete. But the contrary also occurs. Archimedes' grappling cranes and super-catapults, Greek bridging techniques over the Hellespont, "Greek fire," and Greek sulphur gas attacks were introduced only to be later forgotten or ignored, often for centuries.²²⁹

Wars were fought in Europe in 154 of the 200 years of the sixteenth and seventeenth centuries; between 1568 and 1713, Holland was at war for 116 of these 145 years.²³⁰ The frequency of war did not seem, at least in these two centuries, to be associated with substantial technical advances.* The last half of the nineteenth century was, on the

²²⁸ Brodie, pp. 10-11, 90. There were exceptions to these views. John Donne thought that due to artillery "warres come to quicker ends . . . and the great expence of bloud is avoyded." Brodie, p. 70.

²²⁹ Ibid., pp. 60, 14-15.

²³⁰ Sombart, p. 1.

* See Appendix A, n.13.

contrary, a period of both considerable technical military innovation and of frequent war. But the period was one in which progress in industry and science was very great and this probably would have had a considerable effect on military technology even without the stimulus of numerous wars. The Krupps no doubt found in the wars and threats of war of the nineteenth century a financial and political stimulus for their technical ingenuity, but their technical advances were, in part, the result of a dedicated interest in technical superiority.

In the sixteenth century, Suhl was known as the arsenal of Germany but at the peak of its production between 1500 and 1634 it also sold arms to Spain, France, Switzerland, Venice, Cracow, Wilna, Livonia, and Danzig.²³¹ This was no less characteristic of the Krupps who were both competitors with but also at times, through patent interchanges and cartels, cooperative with Schneider of France, Skoda in Austria and Czechoslovakia, Mitsui of Japan, Vickers and Armstrong of Great Britain, Putiloff of Russia, Terni and Ansaldo in Italy, and Bethlehem and DuPont in America.²³² Krupp provided arms to potential enemies of the German states, only slightly inhibited on occasion when this led to political difficulties for the firm. When the Prussian chief of staff, Roon, asked Krupp in the spring of 1866, before Prussia's attack on Austria, not to supply further guns to Austria, Alfred Krupp replied by assuring him that Berlin would be informed of any further Krupp shipments to Austria.²³³ Frederick Krupp's successive development of nickel steel armor, then chrome steel shells that could penetrate it, followed by high carbon armor plates that would resist them, followed in its turn by "capped shot" with explosive noses, kept thirty governments investing, to the profit of Krupp, in one innovation after another, much to the amusement rather than the dismay of the emperor, whose war ministry was nonetheless being victimized by this rapid succession of innovations. By 1900, Frederick Krupp had sold 40,000 cannon to Moscow,

²³¹ Ibid., pp. 93-94.

²³² Manchester, p. 303.

²³³ Ibid., p. 452.

Vienna, Rome and other capitals of Europe.²³⁴ When Hindenburg seized the Polish fortresses in 1914, he found them equipped with the latest Krupp howitzers.²³⁵

It is evident, then, that commercialism, that is the private corporations that largely replaced national arsenals and had an international clientele, increased enormously the observability and assessment of new weapons. The salesman was backed up by elaborate demonstration facilities for prospective buyers. Krupp's gunnery test range was at one time far superior to those of the war ministry which humbly asked permission to use it.²³⁶ Obviously these corporations and their facilities were effective in directing attention primarily to weaponry rather than to other aspects of military power, although, of course, new or improved weapons might be seen as having strategic and tactical significance. The highly competitive producers of military products today continue to facilitate observation and assessment of new weapons and continue, too, in the Western world to concentrate attention on weaponry. Attention to doctrine tends to follow and be guided by weaponry rather than the reverse. It is likely that the state control of design and production facilities in the Soviet Union facilitates a more evenhanded distribution of attention.

Maneuvers, but more especially wars, also provided opportunities for observation and assessment, but here tactics and strategy, morale, leadership, logistics, and manpower had opportunities to compete with weapons for attention, though hardly to out-compete them. The crusaders readily brought back to Europe Turkish ideas in armor and fortification but did not appreciate the important strategic lesson provided by battles with the Turks: that success was the result of the proper combination of infantry and cavalry.²³⁷

²³⁴ Ibid., pp. 248-249.

²³⁵ Ibid., p. 308.

²³⁶ Ibid., p. 199.

²³⁷ Brodie, p. 30.

For nations defeated in war, the destruction of much of their armaments became an incentive to observe, assess and adopt innovations that became available after the war. When Rathenau headed the post-World War I Ministry of Reconstruction, he comforted the German generals with the observation that the weapons of World War I would soon be obsolete and the armies least hampered with such matériel would have an advantage.²³⁸

The cost of new weapons can be reduced and thus interest in them enhanced by the possibility of selling one's older weapons. In 1870, after Paris was surrounded, French agents scoured the world seeking to buy arms. Military establishments "seized the opportunity to unload stocks of obsolescent rifles and to experiment with new models."²³⁹ The enormous transfer of arms to smaller or poorer countries in the post-World War II period by the United States, the Soviet Union and other countries, whether by sale or as aid, has provided economic and political returns and facilitated the acquisition of new weapons by donors, sellers and recipients.

The poorer and weaker countries have benefited in their assessment decisions by the lapse of time that occurs between the introduction of new weapons by the more advanced countries and the selective acquisition of some of these weapons by the smaller countries. The intervening years provide opportunities for observation as well as data for assessment. Turkish armaments were very largely based on a careful analysis of European experience. Some countries with the status of allies or potential allies developed a client relationship with a nation of high military capabilities and thus were spared the need to make totally independent assessments. The Japanese fleet was developed initially under British experience and guidance. In the 60s, Red China skipped a stage, also thought by some advanced countries to be outdated, and largely ignored bombers to concentrate on missiles, a decision that in a French view tended to depreciate for other countries the value of bombers.²⁴⁰

²³⁸ Mason, p. 26. [See also Appendix A, n.14. (Ed.)]

²³⁹ Howard, p. 246.

²⁴⁰ *Le Monde*, November 17, 1966.

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REALITY AND BELIEF IN MILITARY AFFAIRS: A FIRST DRAFT (JUNE 197--ETC(U)

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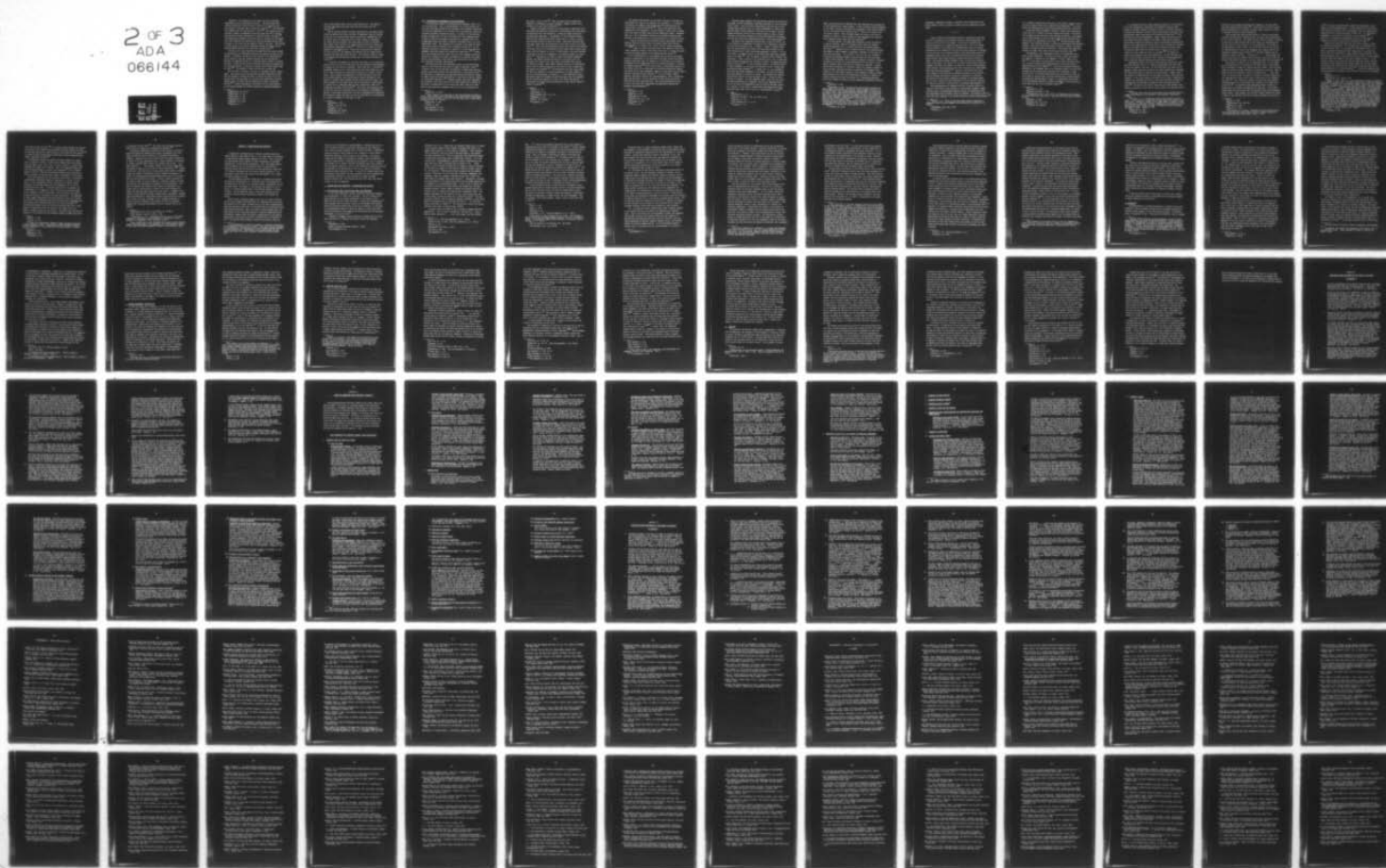
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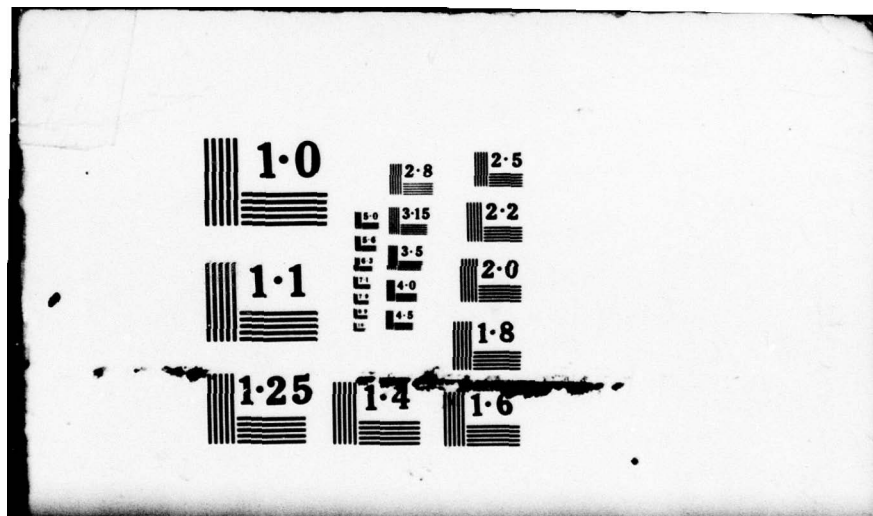
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Naturally, the experience of war counts for much in shaping assessments, but not necessarily correctly. The first major tank battle in World War I saw the loss of 52 out of 121 tanks and led the Germans to conclude that the tank had no future.²⁴¹ Lord Kitchener also thought that the tank was just a "toy."²⁴² The Spanish Civil War provided a number of engagements involving tanks that led to French depreciation of German enthusiasm for tanks and panzer divisions.²⁴³ The embarrassing breakdown of several tanks in the march of the German force that effected the Anschluss with Austria provided further justification of the French who had negative views on the tank. The prestige of Krupp cannon was seriously compromised during the Balkan wars by Turkish defeats despite their heavy use of Krupp wares.²⁴⁴

Victory in war tends toward self-satisfaction that easily accepts the continuation of established practices and ignores the need for new weapons. Wellington, content with the outcome of the Peninsular War and of Waterloo, used his enormous prestige and his post-Waterloo position of commander-in-chief (to 1828 and again in 1842) to conserve the past. Russia and Austria were similarly satisfied and Prussia did not show much impulse to innovate in weapons until Moltke became chief of staff.²⁴⁵ The tendency to fight the last war is quite old.

War also led, of course, to correct, if somewhat belated, assessments. The success of the Prussian breech-loaded needle gun in 1866 when the Prussian riflemen were able to deliver six shots to one by the Austrians, led the powers to rush into the acquisition of breech-loaders, plans for which had lain neglected for years on ministry shelves.²⁴⁶ Careful assessment of the effect of U.S. naval gunnery on four sunken Spanish war vessels revealed the sobering information

²⁴¹ Mysyrowicz, pp. 25-26.

²⁴² Manchester, p. 331.

²⁴³ Mysyrowicz, p. 28.

²⁴⁴ Manchester, p. 305.

²⁴⁵ McElwee, pp. 15-17.

²⁴⁶ Howard, p. 5.

that of 9433 shells fired, only 122 were direct hits. The fourteen thirteen- and twelve-inch guns fired over 300 rounds with only two hits.²⁴⁷

One of the most readily accepted innovations was the humble spade. After the American Civil War, the Duke of Cambridge, hearing a lecture on the war at the Royal United Services Institute, remarked that "in all future wars, the spade must form a great element in campaigns." Of course, greatly increased fire power made the need for entrenchment evident and by 1880 all the major European armies had adopted the short-handled infantrymen's spade.²⁴⁸ This was by no means the first emphasis on entrenching tools. Caesar was an enthusiastic supporter of their utility,²⁴⁹ and Napoleon had insisted that the spade and the pick were more important than the saber. His soldiers, however, tended to throw them away and Napoleon finally gave up forcing them upon his troops.²⁵⁰

A favorable circumstance for military innovation is the conviction that war will not occur for some years and that therefore experimentation to prepare for the future is required. After World War I, the British government decided to act on the supposition that there would be no war for at least ten years and instructed the military to operate on this basis. This provided the background of British interest in the tank and in mobile warfare, which unfortunately largely redounded to the benefit of Germany, which quickly saw the value of British ideas. The French military, on the other hand, had no inclination or instructions to operate on this long-term basis and thus tended after 1918 to be locked into the ideas of 1914-1918.²⁵¹ To be sure, the conviction that war will not occur for some years may in some military establishments operate to discourage intellectual activity, reassessment and innovation. An orientation toward the future is only of value when it is accompanied by a desire to prepare for the years to come.

²⁴⁷ McElwee, p. 281.

²⁴⁸ Ibid., pp. 173, 204.

²⁴⁹ Caesar, p. 20.

²⁵⁰ Napoleon, pp. 95-96.

²⁵¹ Mysyrowicz, p. 37.

III. PERCEPTION AND ASSESSMENT ON THE BATTLEFIELD

The dominating interest in perception and assessment today is in its peacetime mode. This is understandable, but it may overlook the fact that peacetime perception and assessment are frequently influenced by the battle experiences of a previous war or by substitute battle experiences provided by historical studies. Secondly, in the wars preceding the Napoleonic era and in the Napoleonic wars themselves much of what we today call strategic perception and assessment had to be accomplished during the period of maneuver preceding battle or on the battlefield itself. The character and strength of the enemy was sometimes little known in advance^{*} and, as Napoleon pointed out, it was frequently necessary for generals by maneuver to force the enemy into movements that would reveal his strength and composition.²⁵² Further, since the supreme political leader was also field commander--Gustavus, Charles XII, Frederick the Great, and Napoleon for example--his observations and assessments, often made on the battlefield, were likely to have subsequent strategic implications.^{**}

From antiquity until the nineteenth century the battlefield was usually a more restricted area than it became in Napoleon's time,²⁵³ a feature of war in his time that led Napoleon to remark that more experience and military genius were required than in the ancient world.²⁵⁴ The importance of immediately seizing opportunities provided by changes in enemy dispositions made observability of the field of battle a matter of the greatest importance.²⁵⁵ Napoleon thought that naval commanders were fortunate since they could see the entire enemy force, whereas on the ground, irregularities in the terrain may hide a part of an army. Even the most practiced commander cannot tell if he is seeing all of

²⁵² Napoleon, p. xviii.

²⁵³ Thus, typically, we read that at the battle during the siege of Alesia, Caesar found a good observation point from which he could follow the action in every part of the field and send help where it was needed. Caesar (7.68-90), pp. 230-231.

²⁵⁴ Napoleon, p. 235.

²⁵⁵ Ibid., p. 156.

* See Appendix A, n.15.

** See Appendix A, n.16.

the enemy or only a part.²⁵⁶ This, no doubt, was one reason why Napoleon, in deciding to occupy a position, thought no gift so important as "*le coup d'oeil militaire*."²⁵⁷

Despite the greater extent of the battlefield in Napoleon's day, there has been sufficient variability in battlefield size, both before the Napoleonic wars and thereafter, to make any simple historical generalization impossible. Ibn Khaldun, in the fourteenth century, observed that although Arab armies usually did not occupy a terrain that extended beyond the limits of vision, there were occasions when parts of a single army were separated in the field by one or two days' march.²⁵⁸ And in the post-Napoleonic period, fifty years after Waterloo, close order tactics on the battlefield still meant that an entire army corps could be deployed on a front of 3000 yards or less and therefore "could be led as well as commanded by an energetic general on a good horse."²⁵⁹ Nonetheless, at Sadowa in 1866 the Austrian commander, Benedek, was unaware through the morning of the battle that the Prussians had collapsed his right flank, and thought that victory was within his grasp. When reports reached him he was so unbelieving that it took "a wild gallop" across the front for him to appreciate the scope of the disaster.²⁶⁰ The battlefield was thus large enough for him to be unaware of a major development, but small enough for him to be able personally to confirm it. In the eighteenth century the shorter range of firearms had generally meant that the commander did not require much mobility to survey the entire battlefield. A rising piece of ground was often sufficient to give him the field of vision he required.²⁶¹

²⁵⁶ Henry, p. 46.

²⁵⁷ Napoleon, p. 41.

²⁵⁸ Ibn Khaldun, vol. 2, p. 76.

²⁵⁹ McElwee, p. 49.

²⁶⁰ Ibid., pp. 136-137.

²⁶¹ Goerlitz, p. 7.

The greater observability of the field of battle in the past enabled battles to take on the character of a spectacle. At the battle of Culloden, for example, many people came from Inverness and the country about to watch the battle.²⁶² Later, such spectacles were reserved for elite audiences. In 1870, Moltke's staff found a vantage point from which the King could view the fighting at Sedan. Assembled here, too, was "a glittering concourse of uniformed nobilities more suitable to an opera-house or a race-course than to a climactic battle. . . ." Among the observers were General Kutusow from Russia, General Sheridan from the United States, the famous London *Times* military correspondent W. H. Russell and "a whole crowd of German princelings. . . ."²⁶³ This, on a more restricted scale, was repeated in World War I when Ludendorff ordered a tall wooden tower built to enable the Kaiser to watch the German advance in the Château-Thierry sector.²⁶⁴

In the post-Galilean era the spyglass and the field glass added greatly to observation on the battlefield and made various battlefield deception practices (see, for example, pp. 97-98 below) more difficult. At Blenheim in 1704 Marlborough used his "prospective-glass" to observe the enemy's position,²⁶⁵ and a century later, as Wellington pointed out, the British still had an advantage in battlefield observation because the French did not have spyglasses, except in cases where they had taken them from captured British officers.²⁶⁶ On one occasion, before Pamplona, Wellington observed the opposing general, Soult, through his glass and was able to see the direction in which Soult pointed his *bâton* and his other gesticulations. From these Wellington was able to infer the orders Soult was giving and immediately ordered the necessary countermovements.²⁶⁷

²⁶²Prebble, p. 62.

²⁶³Howard, p. 212.

²⁶⁴Manchester, p. 339.

²⁶⁵Fuller, vol. 2, p. 145.

²⁶⁶Stanhope, p. 99.

²⁶⁷*Ibid.*, p. 71.

Captured enemy equipment and positions may provide new information and permit revised assessments, sometimes applicable to the continuing battle itself. Such battlefield observations even when due to over-running enemy positions were not always advantageous to army morale. When the French pushed forward at the battle of the Marne, captured German machine gun positions and trenches became an object of great interest to the French soldiers, who noted how advanced the Germans were and how little they themselves partook of these improvements.²⁶⁸

The face-to-face fighting characteristic of earlier warfare led to an interest in frightening the enemy by one's appearance, gestures or cries (or by silence, see p. 73 above). Caesar's soldiers found that the British dyed their bodies with woad which produced a blue color and gave them "a more terrifying appearance in battle." On the other hand, the shorter stature of the Romans made many Gauls contemptuous of the enemy.²⁶⁹ Sun Tzu speaks of soldiers called "leapers" and "agitators." Their function is not definitely known, but it seems that their acrobatic sword play was intended to impress the enemy with their ferocity and skill.²⁷⁰ In the fourteenth century, Ibn Khaldun refers to Arab statements on the art of war advising soldiers to keep their eyes lowered when attacking.²⁷¹ It seems that this was intended to keep them from being frightened by the enemy, a practice not unlike putting blindfolds or blinkers on horses. Ibn Khaldun also advised that soldiers should not shout and make a noise. Silence is more suitable to dignity. The wild Highland charge, with its loud cries and threatening motions of claymores, was the sole Highland battle tactic, but until the Highlanders were cut down at Culloden, partly by a failure to allow them to charge before the English artillery destroyed them, their tactic had won no inconsiderable success.²⁷²

²⁶⁸ Mysyrowicz, p. 14.

²⁶⁹ Caesar (5.1-23) p. 136, (2.12-35) p. 89.

²⁷⁰ Sun Tzu, p. 127.

²⁷¹ Ibn Khaldun, vol. 2, p. 82.

²⁷² Prebble, p. 53.

When cries and shouts are employed they have sometimes been directed not at the soldiers but at their weapons. In the nineteenth century fighting in the Sudan, dervish incantations were intended to make British bullets fall to the ground before reaching them.²⁷³ Music, too, plays a role in military history. When Kitchener fought the Arabs on the road to Omdurman in 1898 his troops stormed the Arab barricades with Scottish pipes, English flutes, drums and brass playing.²⁷⁴

A British general, who might have hesitated to give such advice to English soldiers, advised Portuguese troops under his command, during the Peninsular War, to assume ferocious countenances against the enemy.²⁷⁵ Japanese prints of samurai warriors (and Japanese movies with samurai themes) suggest a widespread confidence in the value of a ferocious countenance. In World War I the "over the top" charges of trench warfare sometimes brought troops face-to-face with the enemy in hand-to-hand fighting, but the earlier element of seeking to frighten the enemy by some sort of visual demonstration did not seem to occur except, perhaps, where French African troops were employed. In more recent years the display of "ferocity" seems to be largely confined to such relatively innocuous practices as painting the fuselage of war planes to look like sharks, tigers or other dangerous animals, probably satisfying the pilot more than frightening the enemy, or, equally innocuous, adopting for naval craft names of a threatening character such as for example the French nuclear submarines *Redoubtable*, *Terrible*,

²⁷³ Bouthoul, p. 163.

²⁷⁴ Moorehead, p. 334. [A more recent use of music in battle has been brought to the Editor's attention. David Irving in *The Trail of the Fox* describes the following episode during Rommel's attack on the El Alamein line. "Just before they pass through their own minefields, they hear a long-forgotten sound that brings a lump to the throats of many of the older men: General von Bismarck has sent the band of the Fifth Panzer Regiment to play Rommel's army into battle with old Prussian marches, just as in bygone times . . . It is an eerie sound, and the tank crews and infantry hear only blind snatches above the whine of engines in high gear and the crunch of tank tracks on gravel; but the sound is unforgettable." Irving, 1977, pp. 207-208. (Ed.)]

²⁷⁵ Stanhope, pp. 40-41.

Foudroyant, Indomptable, Tonnant, Inflexible, whose effectiveness the French seemed to want to impress on others--and on themselves--by these names.

* * * * *

A major problem in battlefield perception, especially in the past but still continuing into the modern period, is the identification of troops as one's own or as the enemy. To this end the uniform and certain precursors of it played an important role. But it is evident from the history of the uniform that identifiability was not the sole consideration--the uniforms of the past were often creations of splendor even in the case of the ordinary soldier in his field dress (until the eighteenth century there was no distinction between battle dress and parade dress), which often outdid in richness the dress uniforms of today. Such designs probably stemmed in part from the more elaborate dress of past ages. The officers of the Duke of Marlborough's favorite regiment, The First Foot Guards, are shown in a picture in Marlborough House fording a river dressed in blue coats with gold lace, and wearing their hair long and powdered.²⁷⁶ Clearly in both earlier and later years dignity, social distinction and morale played a role in the design of uniforms that would be attractive, especially to officers. The Soviets too have showed themselves sensitive to the dowdy appearance of their enlisted men and beginning in 1970 introduced a new set of uniforms intended to increase pride, recruitment and discipline.²⁷⁷

The standardization of uniforms, that had in earlier years a relation to the livery of the servants of a great noble, became a common practice only in the seventeenth century and was not unrelated to the new requirement that the state clothe its soldiers. The buying in bulk of cloth and other elements of the uniform naturally produced uniformization.²⁷⁸

²⁷⁶ North, p. 8. "Lace" in the text above refers to strips of different colors for each regiment which decorated the jackets of uniforms.

²⁷⁷ Goldhamer, 1975, pp. 34-35.

²⁷⁸ North, p. 4.

T. E. Lawrence thought that the secret of the uniform, "death's livery," was that it made a crowd solid, dignified and impersonal,²⁷⁹ but this effect was apparently not in mind when uniforms were first introduced.

Before the uniform emerged to provide a readier identification of friend and foe, a variety of devices served this purpose. The allies of the Romans in Gaul had their right shoulder uncovered, a sign agreed upon to mark friendly troops, but easily imitated and therefore sometimes feared as a deception by the enemy.²⁸⁰ The North African Arabs adopted a very different method of solving the battlefield identification problem. Since the soldiers came from a variety of tribes, the identification of friend and foe was difficult. The soldiers were therefore divided into small units where the men would know each other.²⁸¹

The soldiers of the seventeenth century, in considerable part, still clothed themselves. To identify friendly troops the soldiers wore sashes, or feathers of the commander, or wore a badge on the hat.²⁸² At the battle of Breitenfeld in 1631 during the Thirty Years War, the Saxon troops pinned green branches in their hats and the Imperialists wore white ribands.²⁸³ The French developed distinctive uniforms for each regiment before the eighteenth century, but the first uniforms for the entire French army date from ordinances of 1729, 1736 and 1749. The British army adopted its red uniform in 1645, but in the navy it was not until 1748 that officers had a common uniform. In Prussia the uniform began to appear on a substantial scale early in the seventeenth century but complete uniformity in the army did not occur until the end of the following century.²⁸⁴

²⁷⁹ Lawrence, p. 641.

²⁸⁰ Caesar (7.32-53), p. 209.

²⁸¹ Ibn Khaldun, vol. 2, pp. 75-76. Ibn Khaldun does not explain how these small units were able to identify other small units as friend or foe.

²⁸² Sombart, p. 156.

²⁸³ Fuller, vol. 2, p. 60.

²⁸⁴ Sombart, pp. 160-163.

It is apparent from the rather elaborate character of the uniforms of the late seventeenth, eighteenth and nineteenth centuries that except for attempts planned in advance of battle it would be difficult to deceive the enemy by trying to imitate his uniform, unless of course, uniforms were taken from prisoners or battlefield casualties.²⁸⁵ But the uniform also had disadvantages. Highly colored and elaborate uniforms made troops more visible to the enemy. When special uniforms were issued to particular bodies of troops, battlefield identifications useful to the enemy were more easily made. The red jackets of the bodyguard of the Grand Vizier in the battle following the abortive siege of Vienna in 1683, made his location easier to detect not only of course by his own troops but also by the enemy.²⁸⁶ The desire to provide the inspiration and pride generated by colorful uniforms died hard. In 1914 French troops were still wearing red breeches although other armies had adopted uniforms with protective coloring.²⁸⁷

Contemporary armies, with their more functional and prosaic battle and dress uniforms, are not so sharply distinguished from each other as were the armies of the past. On the other hand, the nature of contemporary combat restricts the amount of visual recognition of friendly and enemy troops that is required on the battlefield. Indeed, what is now required is identification of the enemy's matériel rather than his soldiers. In the first stage of the Pacific War in 1941 a Japanese air squadron that attacked the *Prince of Wales* and the *Repulse* thought for a moment that they had made a mistake and were attacking their own ships.²⁸⁸ And during the battle of the Coral Sea, some Japanese naval fighters returning to their carrier almost landed on an American carrier

²⁸⁵ Besieged towns awaiting reinforcements were sometimes opened to enemy troops dressed in the uniforms of the besieged. Machiavelli, p. 886.

²⁸⁶ Kreutel, p. 78. Precautions against this difficulty can be taken. At the battle of Poyang Lake, a Ming flagship was known to have white masts. Fearing an attempt by the enemy fleet to isolate it from the main body of the fleet, the Ming commander had the masts of all his ships painted white during the night. The sight of this at dawn gave the enemy a fright. Dreyer, p. 228.

²⁸⁷ Montross, p. 690.

²⁸⁸ Okumiya, pp. 80-81.

instead and only escaped by gunning their engines at the last moment when they realized their mistake.²⁸⁹ In World War II the need to make visual identification of friendly and enemy planes required a substantial amount of study of plane silhouettes.

That uniforms and field glasses provide for better troop identification and battlefield observation does not insure that observability will be greatly improved. The amount of dust raised by armies or portions of them can, in some terrains and on some roads, be considerable and obscure portions of the troops or of the battlefield. In his *Art of War*, Machiavelli refers to dust, sun in the eyes, and wind in the face as being handicaps in battle, and recommends that armies should be so disposed to minimize their influence.²⁹⁰ Certainly musketry was not improved by these conditions. In World War I ". . . after another dry spell the ground was so powdery that Australian troops had to use compasses to keep their bearings in the dust cloud raised by the barrage."²⁹¹

Dust raised by troops is not an unmitigated evil. It has served as a valuable source of intelligence from ancient days to the present. Sun Tzu provided a schema for interpreting dust clouds: "Dust spurting upward in straight columns indicates the approach of chariots. When it hangs low and is widespread, infantry is approaching . . . When dust rises in scattered areas the enemy is bringing in firewood; when there are numerous small patches which seem to come and go he is encamping the army."²⁹² Dust "filled the heavens" and hid from enemy generals the maneuvering of the T'ang forces that defeated a far larger force in 621 B.C.²⁹³ The Turkish column approaching Vienna in 1683 certainly could not conceal its progress even from afar. The Turkish diarist with the forces noted that the marching troops (and presumably their cavalry, supply wagons, and artillery trains) raised such clouds of dust on the road that one could no longer recognize the man next to

²⁸⁹ Ibid., p. 109.

²⁹⁰ Machiavelli, pp. 802, 815.

²⁹¹ Moore, pp. 24-25.

²⁹² Sun Tzu, p. 119.

²⁹³ Fitzgerald, pp. 105-106. Fitzgerald calls this battle one of the decisive battles of world history since it firmly established the T'ang dynasty and united China. Ibid., p. 108.

one.²⁹⁴ Accounts of modern warfare reveal the persistence of dust clouds as an intelligence factor. French opposition to the tank in North Africa was partly based on the clouds of dust it raised and the opportunities for surprise that were thereby lost. The problem was compounded, in the view of the French, by its noisiness.²⁹⁵ In World War II, Luftwaffe reconnaissance spotted a Polish cavalry brigade by the dust clouds raised on Poland's dry roads.²⁹⁶

Muskets, artillery and naval guns had effects similar to dust on battlefield observation. But the smoke was not compensated for, as were the dust clouds, by a substantial intelligence value. The smoke of gunpowder was generally more significant as an obscuring factor than as an indicator of enemy positions and placements. This was particularly true in naval battles when the smoke of cannon mingled with the thick black smoke of the early steamship furnaces. In the battle of Lissa, the Italian and Austrian ships with their 1300 guns generated so much smoke from their black powder and from the funnels of the ships that visibility was reduced to two hundred yards and the ships groped about in a dense obscurity.²⁹⁷ In Cuba the American ships operated against the Spanish in such obscurity that two of them missed

²⁹⁴Kreutel, p. 13.

²⁹⁵Mysyrowicz, pp. 128-129, 132.

²⁹⁶Mason, p. 281. [Dust is so much accepted as a source of evidence of the enemy's actions that it obviously lends itself to use for deceptive purposes. As pointed out to the Editor, Rommel, "The Desert Fox," supplied just such an example in the May 1942 battle for Tobruk. As David Irving describes it: ". . . General Rommel waiting for dusk on X day and then--about 8:30 p.m.--announcing: 'Operation Venezia!' That is the signal for his entire striking force of 10,000 vehicles to begin its southward move. He moves his car right to the front. Behind him, the two Italian infantry corps have been steadily battering at the Gazala line since 2:00 p.m., and the enemy will have noticed tanks assembling there all afternoon, clattering and roaring and raising an immense pall of dust against the setting sun. Now, however, in the evening, the dust cloud is being churned up by aircraft engines with propellers, mounted on trucks which are slowly circling in the desert. Only one Italian tank battalion is still there now, for the German panzer battalion has already slipped away at 7:00 p.m. to join Rommel's daring advance around the enemy's desert flank." Irving, 1977, p. 167. (Ed.)]

²⁹⁷McElwee, p. 260.

each other by only six feet.²⁹⁸ In a battle between Chinese and Japanese naval forces such a dense fog was created by the bad Japanese coal and by the naval guns that no clear account of the battle has ever emerged.²⁹⁹ The smoke of guns persisted until Alfred Nobel invented smokeless gunpowder, ballistite in 1890.³⁰⁰

The obscurity produced by gunfire obviously suggests the generation of smoke as a device to hide troops, matériel and naval vessels from the enemy's eyes. But in fact the use of smoke as a screen long antedated the musket and the cannon. Both the Greeks and Romans used fire and smoke barrages to conceal troop movements,³⁰¹ and a Chinese general in 623 B.C. had his troops drag branches across the ground in order to obscure, by the dust they raised, the movement of his troops.

With the introduction of the airplane in World War I, battlefield reconnaissance was greatly improved, especially, of course, in rear areas. In the contemporary world the satellite has become a major instrument of peacetime observation and assessment, but it has its battlefield uses as well. In earlier ages the hill (in German, the *Feldherrnhügel*, the commander's hill) provided the elevation needed by the commander to direct operations. But well before the airplane, the balloon became an instrument of aerial observation. The Committee of Public Safety experimented with them during the wars of the French Revolution,³⁰² and Napoleon inherited two balloon units organized under the Convention but disbanded them after his return from Egypt.³⁰³

Alfred Krupp designed a gun--the first anti-aircraft gun--to be fired against the balloons used by the French in the siege of Paris to maintain communications with the outside. The French also used carrier pigeons for this purpose and the Prussians brought in hawks from Saxony

²⁹⁸ Ibid., p. 279.

²⁹⁹ Ibid., p. 272.

³⁰⁰ ["The first satisfactory smokeless powder was made by Vieille, a French chemist, in 1884. Alfred Nobel in 1890 produced ballistite, one of the earliest of the nitroglycerin smokeless powders." Brodie, p. 143. (Ed.)]

³⁰¹ Adcock, p. 62.

³⁰² Howard, p. 325.

³⁰³ Napoleon, p. xvi.

to intercept and kill them.³⁰⁴ The Swiss army currently maintains a large "force" of pigeons for communications purposes.³⁰⁵

The greater observability provided by the altitude of balloons, planes and satellites combined with optical instruments still left largely unsolved a major limitation on battlefield observation--darkness. Clausewitz was of the opinion that the greater flexibility of forces in his day (deployment from a linear formation to divisions in column) rendered night attacks less feasible than before. "In a night operation . . . the attacker seldom if ever knows enough about the defense to make up for his lack of visual observation."³⁰⁶ Images of World War I and World War II battle scenes would hardly be complete without the beams of searchlights cutting through the darkness, or without the exposing and death-threatening flares that lit up no-man's land and other battlefield terrains. Clearly, combat operations do not cease at night but they do diminish. Darkness, however, provides opportunities for concealing the movement of men and matériel. The pause in fighting that darkness often imposes is reminiscent on a diurnal scale of the practice of armies in the field breaking off combat and returning home during the winter season. A change in this respect is made feasible by image intensification instruments. Whether night-time defensive or night-time offensive operations will be helped more by them is unclear, although the not uncommon initiation of surprise tactical offensive actions under the cloak of darkness suggests that increased observability will be a greater aid to the defense.*

³⁰⁴ Manchester, pp. 146-147 and Howard, pp. 325-326.

³⁰⁵ *Der Spiegel*, April 26, 1976, p. 226.

³⁰⁶ Clausewitz, p. 273. Clausewitz does not count as true night engagements, operations in which darkness is used merely for the approach, the engagement itself beginning at dawn.

* [This chapter was to have concluded with a section about learning lessons from observations. See Appendix B for illustrations of some of the points the author intended to include in that section. (Ed.)]

CHAPTER 3 - MANIPULATION AND DECEPTION

Conventional representations of military confrontations have leaned heavily on the clash of men, or, in a later age, on the thrust of powerful and complex weapons against each other. This is equally the case whether active warfare is being represented or peacetime planning for a later wartime eventuality. Thus, the common image of war is primarily that of two physical forces in confrontation. Napoleon's maxim that military force is mass multiplied by speed (see p. 57 above), emphasizes war as a form of applied mechanics. The principles of war ("git thar fustest with the mostest," etc.) underline this conception of war.

The development of general staffs and of strategic and tactical doctrines led increasingly to a recognition that the application of the mechanics of military force required trained, disciplined, and experienced minds. War might, on this account, be thought of, as is chess, as a contest between more or less skilled players, a contest of minds. But the important point is that these players are professional military men who calculate in terms of the conflict of forces.

There exists a different image of war, not, of course, entirely devoid of the elements described above, but focusing less on the size and skillful use of forces, and much more on the role of manipulation, guile and deception--both prior to and during war--to achieve political and military objectives. Here, too, mind is pitted against mind, but these minds are not relying exclusively on military capabilities and professional command skills but rather on manipulation of the enemy's perceptions of the political-military situation, and on deception of him.¹ In different world regions, countries and periods, these two

¹I use manipulation to refer to attempts to influence perceptions and assessments by means short of deceit. Thus some forms of propaganda or the increase in or demonstrations of one's weapons may more properly be called manipulation. Manipulation and deception shade one into another and there is no need to impose a sharp distinction between them.

views of war have existed in varying degrees. Although military histories provide accounts of particular manipulations and deceptions that occurred during individual wars or pre-war periods, a comparative, analytic account of this element in war, drawing on a broad range of historical materials, does not seem to be available. The present chapter may be viewed as an attempt to provide a brief introduction to such a larger effort. Manipulation and deception occur in peacetime and wartime, but in military history the wartime cases have received much the greater attention. Here we shall emphasize deceptions practiced in peacetime in the anticipation of war or as a means of achieving objectives without having to fight. I shall first examine some of the *circumstances and motives* that have stimulated the use of manipulation and deception (Section I), then consider the variety of *means* employed (Section II),* and conclude (Section III)* with some consideration of their *consequences*.

I. MANIPULATION AND DECEPTION: CIRCUMSTANCES AND MOTIVES

A. THE POLITICAL MIND, THE MILITARY MIND, AND DECEPTION

In the early nineteenth century, Clausewitz depreciated emphasis on the importance of "craft" and "cunning." "The fact remains that these qualities do not figure prominently in the history of war. Rarely do they stand out amid the welter of events and circumstances."² This statement runs so directly counter to the evidence from several periods of military history that we can only attribute it to the bias of a professional soldier for whom the conflict of force with force and the destruction of the enemy on the battlefield were the principal instruments in the art of war.**

Clausewitz's judgment readily applies to periods when the heroic ethic and battle as a display of military virtues were dominant.

² Clausewitz, p. 202.

* [These sections were never written. (Ed.)]

** See Appendix C, n.1.

Polybius (13.3.2 ff.) thought that in "ancient" Greece (not, of course, in his own day) armies did not attempt to mislead each other or to employ secret weapons or other forms of "treachery." Starr believes that if Polybius' views are correct they must apply to the seventh and sixth centuries B.C.³ This is consistent with expectations based on other areas and periods when a similar ethic existed. It is consistent with a transformation in ancient China at approximately the same time from a more ritualized form of warfare to one in which losses or the forfeiture of gains were no longer so readily tolerated for the sake of a display of the warrior's military virtues (see pp. 15, 30-32 above).^{*} When military history emerges from the shadowy period of ritual war, we still find that occasional commanders, like Alexander, would not consider "stealing victory like a thief" but "must defeat his enemies openly and honestly."⁴ Nonetheless, Alexander was a past master at the rapid forced march and the sudden descent like a thunderbolt on an unsuspecting enemy. In fact, both in Greece and China after the period of ritual warfare had receded into the past, deception became a central theme in warfare and pervades accounts of military life to a degree that seems without counterpart today. The highest achievement of the Greek art of war, Adcock points out, was in the triumph of mind over mind, not in mind over matter.⁵ The most successful soldier, said the Spartan commander, Brasidas, to his troops, employs "stratagems which do the greatest service. . . by most completely deceiving our enemies."⁶ The reputations of Nestor and Ulysses underline this trend in Greek military thought.

In ancient China the theme of war as deception emerges even more emphatically. "War is based on deception," said Sun Tzu.⁷ "Lay on many deceptive operations . . . Drive [the enemy] crazy and bewilder

³Starr, p. 5. [See also Appendix C, n.2, (Ed.)]

⁴Arrian (3.10), p. 163. [See also Appendix C, n.5, (Ed.)]

⁵Adcock, p. 63.

⁶Thucydides (5.15,8,9), p. 286.

⁷Sun Tzu, p. 106.

^{*}See Appendix C, n.3,4.

him. . ."⁸ "The crux of military operations lies in the pretence of accommodating one's self to the design of the enemy."⁹ Ancient Chinese deception was notable for its emphasis on pre-war manipulation and deception and not simply on stratagems introduced on the battlefield itself. Thus, for example, upsetting an opponent's alliances was viewed as a major form of waging war.¹⁰ Fairbank points out that in Sun Tzu violence is not the preferred part of warfare. The leader's aim is to induce the enemy's compliance and the most economical means are the best--deception, surprise, convincing the enemy of his inferiority, and avoiding thereby the necessity of fighting him.¹¹ "The master warrior does not fight."¹² Parts of the *Tso-Chuan* but more especially the much later *Chan-kuo Ts'e* are virtual textbooks of manipulation and deception practices. The latter work, compiled from fragments by a first century A.D. Han palace librarian, had the reputation of a sinister and secret book, a knowledge of which virtually guaranteed political and military victory to those who had access to it.¹³

In the fourteenth century, in North Africa, Ibn Khaldun distinguished between what he called external factors in military operations such as force size and tactics, and what he termed hidden factors. The latter are primarily trickery, deceit and surprise. Ibn Khaldun stressed the importance of hidden factors and quotes Muhammad: "War is trickery," and an Arab proverb: "Many a trick is worth more than a tribe."¹⁴

⁸ Ibid., p. 133.

⁹ Ibid., p. 139.

¹⁰ Kierman, p. 34.

¹¹ Fairbank, p. 11. [See also Appendix C, n.6. (Ed.)]

¹² [The source of this quotation was not given. Very likely it comes from one of the ancient Chinese writers. Sun Tzu, for example, states: "To subdue the enemy without fighting is the acme of skill." Sun Tzu, p. 77. (Ed.)]

¹³ On the history of the *Chan-kuo Ts'e*, see Crump.

¹⁴ Ibn Khaldun, vol. 2, pp. 85-86.

Evidently there is a great difference between Greek, Chinese and Arab emphasis on the centrality of deception and the more modern outlook reflected in Clausewitz's depreciation of the significance of craft and cunning. Leaving aside medieval chivalric conceptions of war, one might suppose that there has been--with some important exceptions to be noted below--a general drift historically from an emphasis on deception to a relegation of it to a more modest place in the scheme of political-military preparations for war and possibly in war itself. What circumstances might account for this?

(1) The modern era had seen an increasing professionalization of the officer corps. The vast manpower available in wartime, the increasingly complex weaponry and technical equipment employed, the prolonged period of professional military training, and the development of tactical and strategic doctrine, all tended to focus the professional military man's attention on the art of warfare as the defeat of the enemy by a greater force or by a force more skillfully employed.* The modern soldier, meaning here the officers and top commanders, are "fighting men" not necessarily in the sense of battlefield action but in the sense of being specialists in the use of force. Their professional pride and professional knowledge are oriented toward the technique of applying physical force to overcome an opposing physical force. Pre-war and even intra-war deception are likely to be ignored or slighted as useful devices by men trained in this tradition and for whom conventional military doctrine and tactics absorb so much attention.

(2) A second and closely related factor adds a powerful impetus to the concern with war as primarily the application of physical force. This is the divorce of the professional soldier and commander from foreign political involvements--which are more conducive to manipulation and deception--and from political interests other than those represented by military budgets, manpower policy, and related matters of military administration. In the professional western officer corps of the modern era the non-involvement of officers in

* See Appendix C, n.7.

politics became an article of professional ethics and professional pride, even if not always observed. Military interference in politics did occur in Germany in the period between the Franco-Prussian War and World War I. However, this politicization of the top military men largely involved attempts to deceive the German foreign office and the emperor rather than the potential enemies of Germany.¹⁵

Ambitions among the military for German expansion, by military means if necessary, did not inspire ideas of manipulation and deception in order to deal with Germany's future antagonists. The professional, technical military interests and competencies of the German general staff and the military attachés made them largely indifferent to the claims of cunning and deception and left them focused on military schemes such as the Schlieffen plan. Planning to deceive the enemy (rather than one's own government) began in Germany principally after 1918 in order to evade the terms of the Versailles Treaty.

From the standpoint of our problem (the varying degrees of emphasis on manipulation and deception), a divorce of top military leadership from top political leadership seems to have had several important effects and accompaniments. (a) It probably reduced the commander's peacetime concern with grand strategy and with those manipulative and deceptive measures that might strengthen in peacetime the nation's position vis-à-vis a potential enemy by misleading him and weakening his present and future powers of resistance. Such measures generally require a close coordination of military and political leadership, a cooperation less likely to occur given the professional soldier's distance from the foreign office and for the most part, the political leader's and parliamentarian's divorce from strategic and grand strategic concerns. The professional officer tended to become apolitical, not only in the sense of a proscription of political activity but in the more fundamental sense of not understanding very well the nature and nuances of political life, especially

¹⁵ See Craig, Chapters 5-8. McElwee (p. 5) states that Bismarck, particularly in 1866 and 1870, kept the Prussian generals "on a very tight rein." But this phrase, together with the friction between Bismarck and his one-time friends Roon and Moltke reveal the clash of civil and military interests.

international political life.* (b) This apoliticality was probably reinforced by a garrison life and mentality, by the "inwardness" of a professional soldier's environment and career interests. (c) It was probably further reinforced by the widespread existence in some countries of such apoliticality in the society at large. Military apoliticality was further increased by occupational selective factors that were more likely to send into the military men of a relatively non-reflective character, and into various sectors of civilian life (politics, business and law) the modern Nestor and Ulysses.

In many cases, most notably in the United States, a good "political sense" in matters of domestic politics has often been accompanied by a very poor "political sense" in foreign affairs. This has been less evident in Europe where foreign affairs had a far greater significance and prominence than in the United States.¹⁶ Since peacetime manipulation and deception are essentially political and not military measures, even though the pawns to be moved may be military in character, they require political responsibility, political interest, and political sense in foreign affairs. The political mind is generally more at home with intrigue and is better known for its wiliness than is the military mind. However, few leading political figures in the west seem to have an interest in or a sense of responsibility for grand strategic and strategic planning.

¹⁶ Since World War II, and more especially during the last decade or two, some improvement seems to be taking place in the United States in this respect. This improvement is probably not due to an increased attention to "international relations" and foreign affairs in military academies and staff colleges. A knowledge of inter-state relations, as reflected in most textbooks on the subject, hardly guarantees the possession of "political sense." This is a difficult term to define but it refers here to the ability to perceive the basic motives and notions that govern the behavior of various political elites, their distinctive characteristics, and the way they tend to react to major political, economic, and military events. Improvement in the political sense of the military (and, for that matter, the U.S. political class) is very likely due--if it has in fact taken place--to absorbing lessons from the succession of events reported in newspapers during the last two decades. For those who study political-military affairs with genuine attention to their underlying motives and consequences, a certain amount of specialist literature has increasingly provided insights into the behavior of several important world political elites.

* See Appendix C, n.8.

That professional military concerns reduce an interest in manipulating the enemy's perception of the military-political situation is supported by a decline in such manipulations as military professionalization increases. A further argument adds to the plausibility of our hypothesis. When we examine cases where influencing the enemy's perception as a substitute for or reinforcement of military means is most pronounced, we generally find that a divorce between political and military responsibilities (see p. 103 above) has not occurred or has occurred to a lesser degree. The early ages, when deception and manipulation played so prominent a role in war, in preparations for war, and as a substitute for war, were precisely ages when in the advanced societies of the time military and political leadership were often in the same hands.

In ancient China and throughout much of the Mediterranean world, kingship and other high political offices involved military leadership as well. Despite the increasing professionalization of the Chinese forces during the period of the Warring States, men of talent were often presumed to be equally gifted in civil and military skills, and were often promoted from civil to military posts and vice versa.¹⁷ Similarly, in Greece the most important figures in the political assemblies of the city-states often became military commanders. Great figures of Athenian political life--Pericles, Nicias, Cleon, Demosthenes, Themistocles, and Alcibiades--were also military commanders, although in the third century B.C. generalship became a more specialized skill.¹⁸ Similarly, in republican Rome, provincial governorship involved military command, and election to a praetorship and consularship was a precondition for the highest military command. Caesar's generals in Gaul were senators, that is to say, they were former magistrates, and the generalships that devolved upon them as a result of their senatorial rank did not always depend on military experience. Clausewitz's depreciation of craft and cunning would have seemed very odd in these regions and periods when political and military leadership were often conjoined.

¹⁷Loewe, p. 87. See also Fairbank, p. 10.

¹⁸Cawkwell, pp. 35-36.

Despite the professionalization of the modern officer and his depoliticization, manipulation and deception of potential enemies has occurred in very important cases in the contemporary period. These apparent exceptions to our general hypothesis of the inverse correlation between professionalization and the use of deceptive practices are, in the correct sense of that much abused phrase, "exceptions that prove the rule." The most notable instances of peacetime manipulation and deception in the contemporary period are Hitler and the Nazis in the pre-World War II years, and the Soviets under Stalin, Khrushchev, Brezhnev and the Politburo. But these are precisely cases where national aggressive and defensive military objectives were pursued under strict political control, where strategy, grand strategy and procurement decisions were shaped by the political as well as the military interests of the political leadership. In the Nazi and Soviet cases we have, then, a return to the conjoining of political and military leadership. In modern dictatorships and authoritarian governments, as in late medieval and Renaissance tyrannies in Italy, military preoccupations become a major concern of the political elite. In such polities professional soldiers at the top often become, as did Marshal Grechko, political figures, just as the top political figures become military commanders.¹⁹ It is not surprising, then, that in the contemporary period it was precisely Hitler and the Nazis, and both pre-war and post-war Stalin, Khrushchev and the Politburo that have shown the greatest appreciation of the political-military advantages of peacetime manipulation and deception of potential enemies and, as a matter of fact, of allies as well. The secrecy and total control available to dictatorships and authoritarian regimes, and the reduced moral inhibitions that accompany such exercise of power, facilitate and provide

¹⁹The President of the United States is also the commander-in-chief of the U.S. forces but this is a formal, constitutional requirement rather than an active conjunction of political and military command.

incentives for the exercise of craft, cunning and deception.²⁰ Although a less important case, Mussolini can be included in the foregoing company. In summary, then, our supposition is that the prominence of manipulative strategies in these cases was fostered by political minds actively overseeing professional military concerns, a relationship strengthened by the aggressive and defensive interests of authoritarian regimes.

There are some additional factors in the past that, together with the conjunction of military and political leaderships, made states more prone to employ manipulation and deception. The history of intrigue and treachery among the Vikings, in late medieval and Renaissance Italy, in ancient China, and in some pre-modern periods of European history, draws attention to the role of personal, family, and dynastic relationships and conflicts in increasing the role of deception. Family relationships, whether by blood or marriage, seem to introduce in interstate conflicts the cunning and treachery that is frequently found in relationships whose very closeness provides the knowledge, occasions, special opportunities and incentives to substitute cunning for brute force.

It may also well be that certain forms of social life, national values and customs facilitate or encourage political-military leaders to employ manipulation and deception.

B. DETERRENCE^{*}

The manipulation of foreign perceptions of a nation's forces and resources is often intended to serve one of the primary objectives of military forces, namely, to ward off possible attacks. "To preserve peace, be prepared for war." This does not necessarily lead to attempts

²⁰ Current Soviet military training emphasizes the need to study enemy deceptions, his "base and deceitful methods." These methods are, nonetheless, recommended as a means of attaining military objectives cheaply. It appears that "one form of military creativity is military deception." In 1971 a Soviet military journal sponsored a conference on "military cunning" and deception. See Goldhamer, 1975, pp. 114-115. Of course the most important forms of Soviet deception occur at the top political levels.

^{*} See Appendix C, n.9.

to deceive foreign powers concerning one's own military strength or one's will to resist. The known status of a nation's forces and intentions may be viewed as sufficient to deter prospective aggressors.* However, few countries concerned with deterrence can rely on the objective facts to convince others of the undesirability of a military challenge. A nation's military power (even if adequate) and even more its will to resist are not necessarily self-evident or believed to be so. Its leaders cannot be at all sure that their own calculations concerning the costs they can inflict on an aggressor will coincide with the latter's calculations. The frequency with which aggressors have lost wars suggests that their ability to calculate and predict is more limited than they might have wished. Efforts to affect the enemy's behavior beyond increasing the size and quality of one's forces are in any case desirable because the enemy may have motives to attack that have little to do with military cost-benefit calculations. Further, the conditions adequate to deter attacks on the homeland are often not adequate to deter attacks on objects of less central value to the defender. Here the intentions and will of the defender become a more central issue, and however great commitments may be, and however firm the intentions to honor them, the ability to convince the potential aggressor of these may be difficult.

In fact, many countries with strong deterrent interests do not have forces clearly adequate to impose heavy costs on an aggressor, nor is their will to resist aggression so clearly sufficient that all that is required is manipulation of the enemy's observations in order to aid him to reach a *correct* assessment of the grand strategic and strategic situation. Since resources (or will) are often lacking to make them adequate, the importance of manipulation and deception becomes evident. Here it is not a question of convincing the potential aggressor of the true state of affairs, but rather of concealing it from him, and encouraging foreign assessments that ascribe greater power and firmer intentions to one's self than, in fact, exist. (See Section II, Means.)**

* See Appendix C, n.10, 11.

** [Unwritten. (Ed.)]

Weak nations* may increase the size or effectiveness of their forces, not in order to convince powerful, possible aggressors that they have the ability to repel an attack or prevent conquest, but rather to increase the costs to the aggressor beyond what he may be willing to bear. Since eventual defeat in the event of an attack is assumed, it is evident that attempts to manipulate the potential aggressor's perceptions and calculations by strengthening forces is futile unless the weak nation can at the same time convince the potential aggressor that it is willing to fight a war *à outrance*, engage in a scorched earth policy and fight "to the last man," if that be necessary, to make the cost sufficiently great. Small nations like Albania, Finland, and Greece have by their past resistance to more powerful neighbors probably provided warnings of the costs that a small but determined nation can impose. Countries like Switzerland and Sweden, by their substantial investments in national defense, help to suggest that such costs would not be borne were there no intention to employ their capabilities to the full if attacked. But this is only completely persuasive if their populations show an acceptance of military service and military budgets that adds a moral dimension to the nation's physical military capabilities.

The emphasis on will, on determination, is, of course, also useful as a deterrent for large countries with substantial forces, whose leaders nonetheless fear that others may take advantage of what may be presumed to be a political or military weakness. The Soviet Union, in the post-Civil War period, was fond of emphasizing, especially through Stalin himself, that the imperialist enemies had better keep their snouts out of the Soviet potato patch. Of course the Russians had 1812 in their favor as a warning and Stalin's aggressiveness also served, no doubt, in Stalin's eyes as a deterrent rather than as a provocation to attack.²¹ In the West forces intended to deter attack

²¹On this point see Leites, *A Study of Bolshevism*, and Goldhamer, 1971.*

*[A marginal note beside this paragraph in the author's copy of the manuscript reads: "Really belongs to Chapter 3, Section II, Means." (Ed.)]

are unashamedly so denominated. Indeed such a non-aggressive description of them is felt to legitimize expenditures on military goods. In the Soviet Union,^{*} however, during the first phase of the missile race, references to the Soviet forces as a deterrent, especially in Marshal Malinovsky's frequent pronouncements, were rare or possibly non-existent, probably because "deterrence" sounds defensive and passive. But in 1966 Malinovsky finally did describe the Soviet military as a deterrent force and in early 1967 again announced that Soviet ICBMs and SLBMs were weapons of deterrence.²² Possibly as the Soviets grew more confident of their capacity to rival or surpass the U.S. in missiles, Soviet military spokesmen felt a lessened requirement to avoid passive or defensive language like "deterrence."

Soviet deterrence policy, even though combined with massive forces, failed in the end to deter the Nazis. Perhaps a continuation of past Soviet overt hostility would have served the Soviet Union better than did the Nazi-Soviet pact. Perhaps, too, Soviet military secrecy--also a form of manipulation of perceptions--may have had an anti-deterrent effect since it led Nazi intelligence to estimate at only one-half of its true value the number of Soviet divisions that would be available after the onset of war.²³

The value of the will to resist as a deterrent raises questions concerning NATO's deterrence strategy.^{**} For some years now the attempt to increase NATO deterrence of the Soviet Union has very largely involved attempts to increase force size and improve force capabilities. Every such increment may be viewed as increasing the cost to an aggressor, but not necessarily so since the increased cost could only be imposed if the capabilities were to be exercised with the political and military will and morale to make their use effective. "Number itself importeth not much in armies, where the people are of weak courage; for (as

²²*Le Monde*, July 3-4, 1966 and January 19, 1967.

²³See p. 39 above.

^{*}[A marginal note by the author states: "Really belongs to Chapter 3, Section II, Means." (Ed.)]

^{**}[A marginal note by the author states: "Really belongs to Chapter 3, Section III, Consequences." (Ed.)]

Virgil says) it never troubles a wolf how many the sheep be."²⁴ In the present condition of Europe it seems likely that an increased ability to convince the Soviet Union of a German and European will to resist aggression to the full would have a greater deterrent effect than the improved military capability that is usually sought. Similarly, one may suspect that in 1939 a politically unified and determined France would have given the sizable French forces and the Maginot Line a far greater deterrent effect. Hitler's apparent respect for Britain and his desire and hope to keep her out of the war was probably based in some measure on the image of the English troops and nation forged during the nineteenth century.

C. COUNTER DETERRENCE (PROVOCATION)

It does not happen very frequently, but the case counter to the foregoing, namely, manipulation during peacetime to incite an attack on oneself, or at least aggressive preparations for one, is more than just a logical category of deception objectives.²⁵ Since the advantage of the first move is considerable in war, as it is in chess, the willingness to confer it on the enemy must presumably have substantial compensating advantages. This inference is somewhat weakened by two considerations: manipulation and deceptive acts intended to incite attacks by the enemy can themselves be regarded as the first move and can be accompanied by preparations that attenuate the effectiveness of the enemy's pseudo-initiative; besides, less was often sacrificed than might be supposed, since surprise, especially in the past, was often difficult to achieve. Nonetheless, the incitation strategy does forego the advantage of the military initiative. Motives for this strategy are not difficult to infer. Well before the modern era, but especially in modern times, the onus of aggression, of starting a war, has often been sufficiently disagreeable or disadvantageous to lead rulers to try to impose it on the enemy. Mass armies and

²⁴ Bacon, p. 422.

²⁵ Inciting the enemy to attack on the battlefield during war is, of course, a far more frequent objective.

even rudimentary democracy render it desirable to fight a "just war." Nothing can be more just than to defend oneself against attack. When both Prussia and Austria were preparing for war in 1866, Moltke's plans for the advance of the Prussian troops were upset by William I's reluctance to appear the aggressor.

The need to provoke is especially evident for a power with allies who might feel free to disregard commitments were they required to participate in a war of aggression. Provocation may take the form of apparently minor and defensible acts that nonetheless may seem aggressive to the enemy, sufficient to defile his national and personal honor and incite him to attack, and yet at the same time diminish or preclude sentiments of guilt or responsibility for the war in the nation that is engaging in provocation.

In Gaul, Caesar was often content to avoid battle and to permit diplomatic means to gain the ends he pursued. But on occasion he felt that the military posture of the enemy threatened his position and he found it useful, not to deter the enemy, but by deceptions to incite him to action.²⁶ Prior to the Russo-Japanese war a Japanese proposal was viewed by the Russians as a provocation and as equivalent to an ultimatum. In their proposal the Japanese had urged early action "since further delay in the solution of the question will be extremely disadvantageous to the two countries."²⁷ It does not seem that the Japanese intended to provoke the Russians to war. On the contrary, it appears that the Russians were trying to lead the Japanese into the trap of breaking the peace and taking the initiative.²⁸ The Ems telegram composed by Bismarck in 1870 successfully incited Napoleon III to a rash declaration of war for which Prussia was much better

²⁶For example, in his battle against the Bellovaci, ". . . the enemy's plan of campaign impressed Caesar as being well conceived and very different from the rash counsels which are characteristic of Barbarian peoples. He therefore decided to do his best to bring them quickly to battle by making them think that they could afford to despise the force he was leading against them." Caesar (8.1-23), p. 238.

²⁷White, p. 122.

²⁸Ibid., p. 120.

prepared; this was, perhaps, just retribution for French provocation of Austria not many years earlier. The decision of Russia to develop railways in Poland, due for completion by 1916, that would enable them to concentrate troops more rapidly against Germany, is said to have influenced the German generals to insist that the Austro-Serbian dispute be used to provoke war.²⁹

D. REDUCING RISKS AND COSTS

One of the most powerful incentives for deceiving the enemy and manipulating his perceptions is the need or desire to achieve political and military gains at small cost or with small risk.* This may mean avoiding battle or joining battle only under the most favorable or unavoidable circumstances, and pursuing political and military objectives with great economy of force.**

The desire to avoid battle--often, in effect, to avoid war--was frequently a consequence of the fact that war was often reduced to a single battle in which defeat meant the loss of a kingdom or some substantial portion of it, disastrous manpower losses, or political submission. The battle of Hastings in 1066 is a classical instance of a single battle deciding the fate of a kingdom. Ancient history--Eastern and Western--provides many instances in which defeat meant that further military action--at least for some time--was foreclosed. The Greek states rarely had reserve forces. It was, therefore, important to them to be as strong as possible in the first battle since it nearly always settled the conflict.³⁰ In ancient China, too, conflicts were often settled in a single day in a single battle.***

²⁹ McElwee, pp. 112-113. Sir George Clark has written an essay on the duel as an analogy to some aspects of seventeenth century warfare. He does not deal with wars provoked by manipulation but the comparison of such wars with the deliberate provocation that frequently preceded duels would be of interest in the study of political-military deception. Clark, pp. 29-51.

³⁰ Adcock, p. 6.

* See Appendix C, n.12.

** See Appendix C, n.13,14.

*** See Appendix C, n.15.

After the sixteenth century the one battle war or campaign became less common, but even in the Napoleonic wars a single battle sometimes imposed submission and peace for a substantial period before hostilities resumed.*

In these circumstances the risks of war are very high since the outcome of a single battle often depended on unpredictable events and the stakes were very great. Political and military leaders have, since ancient times, been sensitive to the unpredictability of military ventures (see pp. 28-30 above) and have been more inclined to avoid war than they are given credit for.** "Battles," said Wang Hsi, "are dangerous affairs." And, said Sun Tzu: "To win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill."³¹ Commynes, adviser to Louis XI, was pleased that his prudent master did not place "his own position as King of this great and obedient realm of France in peril by a thing so uncertain as a battle."³²

According to Giraldus Cambrensis, adviser to Henry II, Henry "so much feared the doubtful fortune [of war], that . . . he tried all courses before he resorted to arms."³³ Machiavelli observed that "a good leader never risks a battle if he is not forced into it by necessity or if the occasion does not require it."³⁴ Some commanders learned this lesson. After the defeats at Crécy and Poitiers, the French under the Constable du Guesclin confined themselves to harassing operations and within five years had regained most of the territory lost to the English without having to fight a battle,³⁵ a lesson forgotten when they met the English at Agincourt. Similarly the Austrians avoided fixed battles with the Swiss, relying on harassment and pillage,

³¹ Sun Tzu, pp. 77, 78.

³² Commynes, p. 96.

³³ Giraldus Cambrensis (Book I, Chap. 45), p. 251.

³⁴ Machiavelli, p. 894. [See also Appendix C, n.20 (Ed.)]

³⁵ Liddell Hart, p. 59.

* See Appendix C, n.16, 17.

** See Appendix C, n.18, 19.

but firmly undertook to give battle and were decisively defeated at Sempach in 1386.³⁶ Whenever possible Richelieu negotiated and "he enter[ed] into open war only by absolute necessity." In 1629 he wrote to the king: "It is necessary to avoid as much as possible open war with Spain and it is only with much time, great discretion, quiet and covert conduct that we should advance, if possible, toward Strasbourg to acquire an entrée into Germany."³⁷

In the eighteenth century, economic consideration added to the incentives to avoid major battles and the risks attendant upon them. Fortifications and entrenchments had increased the strength of the defense, and the mounting costs of war in the form of weapons and the loss of trained soldiers led rulers to husband military resources. Forces were maneuvered to avoid major losses and wars became less bloody and fierce.* Maurice de Saxe affirmed that if a general was clever enough he could, during his whole career, avoid having to fight a battle.³⁸ He himself, nonetheless, won some notable victories. The Napoleonic wars, with their mass armies, put an end to eighteenth century Fabian tactics.** With a nation in arms it seemed no longer necessary to conserve manpower.*** Later Clausewitz was to write: "Let us not hear of generals who conquer without bloodshed." Again ". . . in such dangerous things as war, the errors which proceed from a spirit of benevolence are the worst. . . ."³⁹

The avoidance or diminution of risk and of the high cost of war are objectives that can be pursued by means other than deception and manipulating foreign perceptions to one's advantage.**** Non-involvement, submission, or the mutual caution of eighteenth century warfare can avoid excessive military, if not necessarily political, risks. But if

³⁶ Gilliard, pp. 21-22, 24.

³⁷ Méthivier, pp. 54, 56. [See also Appendix C, n.21. (Ed.)]

³⁸ Starr, p. 40.

³⁹ Cited by Montross, p. 583.

* See Appendix C, n.22, 23, 24.

** See Appendix C, n.25, 26.

*** See Appendix C, n. 27, 28.

**** See Appendix C, n.29, 30.

the latter are to be avoided and if political and military gains are to be pursued, a more active policy is required. Those who wanted to diminish risks and costs but not forego gains generally sought by deception or manipulation to pursue these dual objectives.* Sparta used its military strength politically rather than risk losses to this precious instrument of policy. Louis XI who, as Commynes noted (see p. 115 above), was prudent enough to avoid battles if at all possible, had no intention of relinquishing his goals. He developed forces whose perception by his enemies, rather than those whose action in battle, would gain his objectives.** Awe-inspiring fortifications, troops in a ready status (not a common asset in his day) and of substantial size were intended not so much to win battles as, with the aid of his diplomacy and purse, to make them unnecessary.***

Such situations have an interesting resemblance to the position of the major nuclear powers. Strategic nuclear war by becoming, relatively speaking, a war with one big battle reduces war again to the point where a nation's fate rests on the uncertainties of a single event.**** Possibly a nuclear power might believe that a one-battle nuclear war is more calculable and less chancy than the one-battle wars of the past; but given the stakes in a strategic nuclear conflict, it would not take much caution to realize that this increased calculability, if it exists, is offset by the greatly increased losses if the calculations go wrong.***** In short, then, the aggressive nuclear power of today is, perhaps, in the position of Louis XI who feared to risk all on one battle but nonetheless used his military forces to gain his ends. Perceptions induced in others, together with sparing military use, substituted for full-scale military action.

* See Appendix C, n.31.

** See Appendix C, n.32.

*** See Appendix C, n.33.

**** [The author's copy of the manuscript has the marginal note "Commynes" opposite this paragraph. (Ed.)]

***** See Appendix C, n.34.

British sea power in the eighteenth and nineteenth centuries was used to intimidate rivals and render less costly accretions of land to the British Empire.⁴⁰ In 1898, fearful of war in Europe in a period of internal unrest, economic constraints, and inadequate military preparations, Tzarist Russia inspired the calling at The Hague of the first disarmament conference. Hitler, speaking in November 1938 in a restricted talk to German journalists, expressed well the satisfaction of making enormous military and political gains in the Sudetenland at virtually no cost. "I myself became most conscious of the extent of this success at the moment when I stood for the first time at the Czech bunker lines. Then I realized what it means to obtain a front of almost 2000 kilometers of fortifications without having fired one round of live ammunition. Gentlemen, this time we actually obtained 10 million men with over 100,000 square kilometers of land. . . ."⁴¹ The Soviet Union's ability to deceive much of the world, including important sectors of U.S. opinion, into believing that it had strategic superiority over the U.S. at a time when U.S. ability to wage inter-continental nuclear war was vastly greater, provides another example of political-military gains at very limited cost. We shall shortly (Section II, Means)^{*} discuss these and other cases to explore the manner in which such successes were achieved.

E. SURPRISE

For political and military leaders bent on aggression, a principal use of manipulation and deception is the attainment of surprise, unless, of course, political considerations make provocation of the enemy more rewarding (see pp. 112-114 above). Surprise might well have been included in the preceding section on the reduction of risks and costs since clearly these are its chief virtues. It is, however, so major

⁴⁰ Graham, pp. 1-3.

⁴¹"Rede Hitlers vor der Deutschen Presse," *Vierteljahrshäfte für Zeitgeschichte*, Heft 2, 1958, p. 184. [See also Appendix C, n.35, 36. (Ed.)]

^{*}[Unwritten. (Ed.)]

a stimulus to deception, and in itself may be viewed as a form of deception, that it deserves a separate place in our discussion.

Strategic surprise, that is, surprise in the initiation of war, was in past times not intensely sought after, either because it conflicted with the military ethics of the period of ritual war or, later, because it was not easily achieved. Early ritualized wars were often "engagements" in the non-military sense of that term, and even later, despite limited intelligence capabilities, Greek armies and fleets were only infrequently the victims of surprise.⁴² Relatively small forces, especially moving by sea, such as the Viking raiders, and even substantial seaborne and naval forces whose departure but not direction might be known, more frequently sought and were able to achieve surprise. But in Western Europe during the Middle Ages, the absence of standing armies meant that a relatively prolonged and highly visible activity was necessary to undertake a campaign with the bulk of a nation's forces. It was hardly possible to raise the feudal levies of the Middle Ages without, in effect, notifying one's neighbors. Surprise might be sought with respect to the object or direction of attack, but even this was generally easily learnt, or evident from the political situation of the time.

The Chinese states during the period of the Warring States were, with their sizeable standing armies, more capable and more interested in surprise, and the deceptions required to maximize it, than were the nations of Europe in the Middle Ages. With the development of European standing armies in the seventeenth century (heavily dependent on mercenaries)⁴³ and the national armies of the eighteenth century, strategic surprise was a more feasible objective but was still very difficult to attain. Even in the period of rail transport, in the

⁴² Adcock, p. 41.

⁴³ Mercenaries permitted states, if they had the necessary resources, to alter rapidly their military status. In the fourth century B.C. little Phokis (seat of Delphi and Mount Parnassus) used its rich temple treasures to provide itself with a mercenary army of 10,000 men and thus became the strongest military power in Greece and a major force in the Greek allies unsuccessful defense against Philip II of Macedon. Bengtson, p. 303.

nineteenth century, standing armies, and their supplies and reserves took several weeks to move to frontiers and a position of attack.* This did not entirely eliminate the advantages of surprise. If the Prussians could mobilize in two weeks, and the Austrians, French and Russians only in four to six weeks, this meant that the Prussians could begin mobilization *after* one of its neighbors and still be able to attack well before enemy forces could be fully assembled for effective defense of their frontiers. In 1866 Prussia gave Austria a week's headstart in mobilization in order not to appear the aggressor⁴⁴ (see p. 113 above), and yet after minor clashes in Bohemia the principal battle of this Seven Weeks' war took place in Austrian territory at Sadowa.

Interest in strategic surprise as an objective was attenuated by the political stresses that preceded war and provided a more or less unavoidable measure of strategic intelligence to the enemy, even though this intelligence was not always effectively acted on. Mobilization is an expensive and dangerous response to political alarms and generally has to be reserved for the most serious and acute threats. Even Stalin was apparently fearful that more adequate preparations for a possible Nazi attack would only serve to provoke it.

A principal aspect of strategic (as well as tactical) surprise has been speed. Its importance in mobilization has already been noted. The effectiveness of speed in the movement of troops--deceiving the enemy into believing one is where one is not--is naturally enhanced by secrecy and deceptive measures to ensure that the departure and movement of troops are not reported in advance of their arrival. Secrecy and deception, combined with a rapid march, enabled Philip II of Macedon to destroy the extreme left of the Greek defensive line at Amphissa and forced the Greeks to fall back on Chaeroneia where another victory by Philip marked the end of Greek power.⁴⁵ Both

⁴⁴ Montross, p. 642.

⁴⁵ Adcock, p. 77 and Bengtson, p. 314.

* See Appendix C, n.37.

Alexander and Caesar were noted for the victories they won by rapid forced marches that brought them before an enemy totally ignorant of their approach and unprepared for their appearance.* Even more striking is the reasonably well authenticated march in 319 B.C. by Antigonus I of Macedon who moved 50,000 men, his horses and elephants almost 300 miles in seven days and nights, an average of about 40 miles per day.⁴⁶ In 621 A.D. a T'ang army took its enemy by surprise when, without stopping for rest or food, it covered--it is said--almost 110 kilometers in one day and night.⁴⁷ In the War of the Spanish Succession, Villeroi in 1703 wrecked Marlborough's plans by moving 30 squadrons of cavalry with 3000 grenadiers hanging on to their stirrup leathers nearly 40 miles in 24 hours.⁴⁸ Simon de Montfort, who had a reputation of being everywhere at once,⁴⁹ moved a cavalry force 75 miles in two and one half days; some detachments covered 90 miles in this period.⁵⁰ Highly mobile warfare was not, then, an invention of the period of the tank and motorized troops. Martin Van Creveld remarks, speaking of the speed of troop movement, that supply problems have kept the pace of strategic movement from growing little over the past two centuries.⁵¹ With but slight exaggeration one might add a couple of millenia to this estimate.

Speed provides decisive deception and surprise only when it outruns the speed of information to the enemy or, if it does not succeed in this, the enemy's ability to prepare an adequate defense before the arrival of its antagonist. In the modern world, speed of communication may forestall total surprise, although this is not an entirely modern accomplishment. Caesar noted that in Gaul important news was shouted through the countryside and what happened at one point at dawn could be known 150 miles away by dusk.⁵²

⁴⁶ Adcock, pp. 77-78.

⁴⁷ Fitzgerald, p. 82.

⁴⁸ Liddell Hart, pp. 75-76.

⁴⁹ Oldenbourg, p. 135.

⁵⁰ Nickerson, p. 337.

⁵¹ Van Creveld, pp. 43, 54n. [See also Appendix C, n.39. (Ed.)]

⁵² Caesar (7.1-13), p. 180.

* See Appendix C, n.38.

Surprise may occur not with respect to the time and place of attack but with respect to the weapons or other capabilities of the enemy, or his strategy and tactics.* Deficiencies in intelligence are often more responsible for such surprise than secrecy and deceptive measures. Roman siege instruments so astonished some Gallic tribes that they fled or surrendered forthwith upon seeing them. The quality and use of Prussian artillery was the major tactical surprise of the Franco-Prussian war, partly because the French ignored intelligence gathered in 1867 by their own officers concerning the new Krupp guns.⁵³ In World War II the Japanese were astonished by the speed with which the Americans were able to unload ships in the Pacific and have matériel in fighting posture.⁵⁴ Hughes comments on an important form of self-inflicted surprise: "There can be few today with actual battle experience who have failed to be surprised on occasion when, by all the force of scientific calculation, the enemy should have been wiped out but was not . . . experience shows that a considerable reduction of theoretical lethality is invariably found when the target consists of living, moving and reacting human beings."⁵⁵

True surprise with respect to weapons and capabilities as a result of manipulation, secrecy or deception is probably not as frequent as self-inflicted surprise. Caesar, after the loss of a legion by Sabinus, an extraordinary defeat for the Romans, with great speed recruited and brought to Gaul three new legions, but not to facilitate a surprise attack. On the contrary, these legions were intended to be displayed in order to astonish the Gauls with the effectiveness of Roman organization and the resources Caesar had at his disposal, and thus to prevent the Roman defeat from having the unfavorable political and military consequences it might otherwise have had. In modern times, the tank in World War I is a classical example of a weapon that achieved surprise.

⁵³ Howard, pp. 5-6, 36.

⁵⁴ Okumiya, p. 147.

⁵⁵ Hughes, p. 59.

* See Appendix C, n.40.

Nazi blitzkrieg strategy and tactics in World War II, on the other hand, achieved surprise only because warnings (by the Germans themselves, see Guderian, p. 52 above) and intelligence on German doctrine and tactics failed to penetrate adequately into allied military planning.

Appendix A

ADDITIONAL NOTES DESIGNATED BY THE AUTHOR AS RELEVANTTO CHAPTER 2

1. Wu Tzu in discussing the five matters that give rise to military operations names first the *struggle for fame*. After that, comes the *struggle for advantage*, the accumulation of *animosity*, *internal disorder*, and *famine*. Sun Tzu, p. 153. [HG italics]
2. [A note in the author's file summarizes a review in *Science* by Michael Harner of Andrew P. Vayda's *War in Ecological Perspective*. The anthropologist observed three phases of war among the Maring of New Guinea: "nothing fights," "true fights," and "routs." The description suggests an inflexible type of warfare in which escalation to truly serious fighting that leads to conquest or loss of territory is not inevitable. As the reviewer points out, there has been relatively little study of warfare and fighting styles in primitive societies. One cannot, therefore, judge the nature of the assessment process in this context. Harner, pp. 1270-1271. (Ed.)]
3. The French cavalry, according to Wellington, was better than the English because it could be more readily controlled and stopped at the word of command. This partly resulted from the English horses being better and kept in higher condition and therefore less easily controlled. Stanhope, p. 221.
4. "As Winston Churchill observed, war, which later became 'cruel and sordid' was then still 'cruel and glorious and the simplest way of resolving international disputes.'" This referred to the sixteen years between the fall of Paris and Alfred Krupp's death when the world was in an almost constant state of declared hostility and in which there were 15 conflicts involving France, Austria, England, Russia, etc., conflicts which were on the whole still small wars. Germany was the only great power not fighting and in the Ruhr "*Krupp could study battlefield. . . [results] and apply the lessons in his shops.*" Each war served as a testing ground. After the Russo-Turkish War of 1877-1878, "Krupp secured testimonials from both sides. . . [which he] dispatched to every member of the House of Commons. . ."
Manchester, pp. 183-184. [HG italics]
5. "The call to arms in France of August 23, 1793, simply abolished the military past. The wars of the eighteenth century, their modernization, their humanitarian aspect as well as their ambitions were destroyed. The nation in arms was created and this dominated the battlefields of Europe up to today. *The importance of large numbers* did not end until August 1945."
Gallois, p. xiii. [HG italics]

6. [The following suggests that the author may have intended to broaden his discussion of leadership to cover additional dimensions. (Ed.)] *The importance of knowing when to stop:* When Alexander tried to urge his troops forward in the Indian campaign, they were silent and only Coenus was willing to speak. He did so saying, among other things, that "still ignorant of the horrors of war and full of hope for what the future may bring, these men will follow you with all the more eagerness," referring here to fresh troops, but saying that the old campaigners have to be allowed to return home. He then said, "Sir, if there is one thing above all others a successful man should know, it is *when to stop.*" Arrian (5.28), p. 297. [HG italics]
7. The joint Russian-German maneuvers were of considerable value to the Russians. "The War Commissar, Voroshilov, had given instructions to show everything and to meet all our wishes. . . . The value of the cooperation to the Red Army was emphasized time and again, as was the wish to *hear the verdict of German officers--which is considered authoritative--about the achievements of the Red Army.*" General von Blomberg quoted in Mason, p. 150. [HG italics]
8. Note that Belasarius and Narses seem to deal with Goths, Franks, etc., as primitive, undisciplined, *unsubtle* armies, and therefore small numbers justified. Cf. Caesar and his similar views. On the other hand, the Persians are more subtle and have to be dealt with more *carefully*. Liddell Hart, pp. 39-54. [HG italics]
9. *Image of the enemy:* General Giap describes the U.S. imperialists and their lackies as "bogged down more and more, reduced to complete passivity." This image of the *giant animal sinking deeper and deeper into the bog* contrasts implicitly with the *light-footed small Vietnamese* with their mobility and rapidity.

Giap also uses the image of the *imperialist being "submerged"* by a wave of anti-Americanism of the Army and people of the north. He also speaks of the American authorities as *sunk in or wallowing* in the discord and dissensions provoked by their defeats in Vietnam. Giap, p. 24 and pp. 27-28. [HG italics]
10. Just as the phalanx advancing in a solid mass had frightened the Getae, a little later--when Alexander fought the forces under Glaucias, king of the Taulantians--he gave orders "for the heavy infantry first to erect their spears, and afterwards, at the word of command, to lower the massed points as for attack, swinging them, again at the word of command, now to the right, now to the left. The whole phalanx he then moved smartly forward, and, wheeling it this way and that, caused it to execute various intricate movements. . . . The enemy, already *shaken by the smartness and discipline of these maneuvers*, abandoned their position. . . ."

without waiting for the Macedonians to come to grips with them. Alexander, who earlier had told his warriors *not to make any noise, now "called on his men to raise the war-cry and clash their spears upon their shields, with the result that the din was altogether too much for the Taulantians, who hastily withdrew . . ."* Prior to this action Alexander had drawn up the main body of his infantry in mass formation 120 deep. Here, as with the Getae, it clearly seems that Alexander made the phalanx appear to the enemy *as some monstrous mechanical mass* that could not conceivably be resisted. It was no longer just so many individual soldiers but a *single enormous machine* operating in perfect unity. Arrian (1.6), p. 52. [HG italics]

11. *Perception of authoritarianism, and fear:* The tendency to attribute particular strength to societies that have a high degree of discipline and control imposed from above might well suggest to observers of them that these societies are more capable of fighting and winning wars.

Walter Bagehot had ideas along these lines in his book *Physics and Politics*. Buchan, p. 15.

Image of the dictatorship as the many-headed single beast--invincible.

12. "In the summer of 1949 Stalin was lecturing the Politburo that 'Hitler's generals, raised on the dogma of Clausewitz and Moltke, could not understand that war is won in the factories.' Out of a population of eighty million, continued Stalin, the German adventurists maintained an armed forces totalling thirteen million, whereas 'history tells us that no single state could maintain such an effort.' Stalin contrasted this with the 194 million population of the Soviet Union at the beginning of the war and the maximum size of the Red Army--which he put at eleven and a half million men. Stalin's statement was not entirely correct, for Hitler's generals had as little effect on the outcome of the Russo-German War as Stalin's generals, and Stalin does not take into account many other pertinent factors which contributed to the Soviet victory. But what does emerge from these pronouncements is Stalin's insistence on a firm home economic base, together with the stability of the Soviet military rear. . . .In the Second World War the Soviet rear was safeguarded by the party and by NKVD troops; and Stalin, as chairman of the *Tsentral'nyi Shtab*, which was outside the *Stavka*, controlled partisan activities aimed at destroying the authority of the occupying power and the security of the enemy lines of communication." Seaton, pp. 265-266.
13. [The author's files included a note to the effect that during this period nations acquired armaments by imitating or simply taking the enemy's weapons. (Ed.)]

A simple means of imitating the enemy's weapons was a favorite form of getting armaments--namely, by plundering the weapons of the other side. Booty in battle and thievery became major forms of armament. Sombart, p. 68.

In the sixteenth century, Germany was the leading country, next to Italy, in the weapons industry. Great Britain tended, as did many of the other countries, to get most of their weapons from Germany and Italy. But Henry VIII--although he got a great many weapons abroad--began to get interested in bringing German, French, Italian and other weapon-makers to England. And by the middle of the eighteenth century, the English weapon factories were the best organized in Europe. Sombart, p. 96.

14. The Germans, since they had to delay developing their tanks, benefited from the American, English and French experiments. They developed, however, entirely new conceptions for the use of tanks and very early developed the panzer division. Mysyrowicz, p. 106.
15. The highly polished armour of the medieval knight, a major responsibility of his page or pages, dazzled and frightened the enemy, and made the number of knights seem greater than they in fact were. Mockler, pp. 57, 91.
16. Also perceptions must have been different for military leaders who participated in battles (as compared with analysts, rear-echelon generals, etc.).

Appendix B

NOTES FOR UNWRITTEN FINAL SECTION OF CHAPTER 2

The following material had been "coded" by the author under categories related to the topic of "Learning Lessons" from observation and experience. He himself selected these particular items from his files as relevant to a final section on this subject in Chapter 2. The data do not illustrate every category in the code; and a few categories are heavily illustrated. Naturally, no conclusions can or should be drawn from this fact. To provide the reader with an overview of what the author had intended to discuss in this section, the entire set of categories is presented below, with the illustrative items included where available. The occasional captions preceding the notes or excerpts are the author's. (Ed.)

CODE CATEGORIES FOR LEARNING LESSONS (FROM PERCEPTIONS)1. LEARNING FROM THE ENEMY AND OTHERS(a) From the enemy

Wrong and right lessons: The Prussian victory at Sadowa was a thunderclap to the French. The obvious explanation, adopted with enthusiasm, was that the needle-gun had won the battle and as soon as the French army was also equipped with a breech-loading rifle its superiority would again be decisive. But some, including the Emperor, saw that Prussia's victory lay deeper--in her short-service conscript army, her rapid mobilization, her ability to organize on the battlefield without disorder. To cope with such an enemy, France might have to attain new standards of military administration and reconsider the fundamental principle of its small army of long-serving professionals.

A great increase in French manpower seemed imperative since the military strength of Prussia was about 1.2 million and that of France about 300,000. Reforms were undertaken but political conservatism and rejection of militarization made them less effective than they might have been. Howard, pp. 29-32.

Attempt to apply lessons, France 1870: The gains in armaments were not paralleled with similar gains in the field of discipline, training, organization and the use of railways. There had nonetheless been a commission set up to study such problems and its contents were revealed in an anonymous publication that was written by General Trochu. But this had very little effect other than to cause him to be set aside. Napoleon III was interested in *military reform and had urged a need for a general staff on the Prussian model but here again little success was achieved.* Howard, pp. 36-39. [HG italics]

(b) From others

Learning from the Americans: "General Helmuth von Moltke had carefully *studied* the American Union's skillful use of railroads in the South; moving his troops in boxcars, coordinating their movements with corps of trained telegraphers, he had massed decisive forces before the Bohemian fortress Königgratz (Sadowa). Manchester, p. 111. [HG italics]

Borrowing from the U.S.: During the Franco-Prussian War, after Paris was surrounded and other armies were being raised further south, a difficulty arose: while manpower could be obtained, the number of officers and NCOs was very limited. The step taken to deal with this situation was "to double the size of the infantry companies, thus halving the number of officers required: *an expedient borrowed from the practice of the Federal Army in the American Civil War. The effect, as in the United States, was deplorable.* It made more difficult the maintenance of discipline, and manoeuvre on the battlefield became almost impossible."

Another *American expedient* was used, mainly the organization of an auxiliary army "in which anyone, regardless of background or experience, could be appointed to hold any rank. Thus, it became possible to give army commissions to foreigners...or naval officers..." Howard, p. 245. [HG italics]

The Russian senior naval officers clearly had studied the naval operations of the American Civil War as carefully as Gourko had studied the great cavalry raids. McElwee, p. 268.

Importation of Prussian drill: The Duke of Cumberland introduced Prussian drill and discipline and greatly improved the fire discipline of the British army. Hughes, p. 23.

2. LEARNING FROM:

(a) One's own errors and experience

The leaders of Greek mercenary troops seem to have learned *tricks* from their extensive experiences abroad. Thus, "the experiments which Iphicrates made in the armaments of peltasts appear to follow his *return from campaigning in Egypt.*" Adcock, p. 23. [HG italics]

Learning from experience: Napoleon says: "The true wisdom of nations is experience." Napoleon, p. 462.

"*Experience* shows that the dispersal of forces has almost always led to defeat while the concentration of forces against an adversary inferior, equal or slightly superior has most often led to victory." Mao, 1968, p. 31. [HG italics]

The outcome of the Crimean War was as indecisive as its onset had been casual. But its consequences for the major participants were great. No belligerent had reason to be proud of its military organization and leadership and it became clear that armies had to be modernized and overhauled. States became conscious of the need for more efficient preparations for war. Thomson, p. 226.

Learning a lesson from defeat: After the losses of the siege of Alesia, "the Gauls all realized that they could not resist the Romans even with the largest possible army, if it was concentrated in one place, but thought that if a number of tribes made simultaneous attacks in different places, the Romans would not have enough men or resources to meet them all in time." Caesar (8.1-23), p. 234.

One of the most striking features of the Turkish diary [*Kara Mustafa vor Wien*] is that it ends with an appendix in which the causes of the defeat are analyzed and, in connection with each cause, a suggestion is made as to how such a happening could have been avoided in the past or might be avoided in the future.

The analysis distinguishes four main causes of defeat. One is the presence of so many purely trading people who follow the army and whose behavior is dangerous. Second, the long time that the troops had fought compared with the fresh troops of the Imperial army. Third, the lack of adequate food and rest for the horses. And fourth, several miscellaneous points including failure to be grateful to Allah. Kreutel, pp. 81-86.

In addition to the pages 81-86, in which the writer of the Turkish diary explicitly sets forth the causes of defeat, further material on the critique can be found on pages 94, 95-96, 97-99, 109, 112 and 115. These later pages are partly the notes and partly the additions to the diary written by a separate writer. Kreutel, pages cited above.

Learning from minor wars Strategy for major wars: "Despite the obvious quality of our aircraft...the Navy Air Force [in the Sino-Japanese incident] suffered heavy losses in the early days of the incident. There was much to be learned in the art of long-distance attack which could be acquired in peacetime, but the price which the Chinese exacted for these lessons was severe. We learned...that bombers are no match for enemy fighter planes." Okumiya, p. 5.

Past war as a producer of expectations: The German general staff was pessimistic about the approaching war since they felt that the idea of a *blitzkrieg* or a short war was a conception that had already led to Germany's ruin in 1914. It was also assumed by almost all writers on war economy that in the event of war with Germany, Britain would again--as in World War I--be able to rely on U.S. industrial strength. Watt, p. 116.

(b) History *

Learning from examples in ancient China: Note that frequently in ancient Chinese stories the representative of one state or a person in danger is able to influence a leader's behavior by *drawing analogies* with preceding events elsewhere or at other times which indicate that if the leader continues to behave as he is behaving he will have ill fortune, whereas he ought to do something else which turned out well in the preceding case. For an example of this, see Kierman, pp. 33-34. [HG italics]

Learning from history: "The principles of war are those which guided the great captains whose great deeds history has transmitted to us: Alexander, Hannibal, Caesar, Gustavus-Adolphus, Turenne, Prince Eugene, Frederick the Great. Studied with care, the history of the 84 campaigns of these great men would constitute a complete treatise on the art of war..." Napoleon p. 40.

Napoleon feels that the generals who have shown themselves to be men of spirit and character are Caesar, Hannibal, Prince Eugene and Frederick. Napoleon, p. 419.

The lessons of history: Napoleon says that the general principles of war were forgotten or unknown during the Middle Ages. The crusaders had no aim but to fight and conquer, and

* Although there are no examples of it here, a marginal comment on the code indicates that it was the author's intention to include illustrations or at least make a point about attribution of exaggerated importance to history. (Ed.)

profited little from it. Charles XII abandoned "his *line of operation and communication with Sweden*, threw himself into the Ukraine, where he lost the greater part of his army by the hardships of the winter campaign . . . *Gustavus was the first to bring such war to its true principles*. His operations in Germany were boldly, swiftly and well ordered." He was skillful in employing victory to shelter himself from defeat. "His line of operation was . . . arranged to guard against anything that might happen, and to maintain his *communication with Sweden*. *His campaigns are a new era in the history of war*." Henry, pp. 49-50. [HG italics]

The principles of great leaders: "The maneuvers and marches of Turenne during the campaigns of 1646, 1648, 1672, 1673 were conducted on the same principles as those of Alexander, Hannibal, Caesar, Gustavus-Adolphus. He kept his troops *united in his hands...*" Napoleon, p. 41. [HG italics]

Napoleon criticizes the fact that the corps of 30,000 men was *not kept together* but permitted to march separated by various natural barriers. He says that a corps of 30,000 men ought always to remain *united*. It is the strength of a consular army. *The Romans always camped every night in a square 150 yards on each side*. Napoleon, p. 348. [HG italics]

Learning from past or independent perception?

Learning from history: Napoleon writes a rather detailed criticism of Charles XII of Sweden's campaign in Russia. He criticizes this campaign of 1708 and 1709 and compares it with his own campaign in Russia, a comparison in which his campaign comes out better than Charles'. Napoleon, pp. 198-201.

Learning from historical experience: Wellington points out that an important general rule is that you should never try to defend villages or places that are too far off and only in reach of cannon shot. "Never attempt to defend a village that is not within reach of musketry. It was just that way the French lost the battle of Blenheim. They sent troops into places beyond the reach of musketry, and then couldn't get them back again." Stanhope, p. 109.

History repeats itself, terrain: Wellington fought three battles on terrain that had been the scene of earlier battles. In Spain, he fought on the same ground on which the Spanish had been defeated by the Portugese, and the monks of a nearby convent, seeing that he had taken the same ground, thought that he must be defeated too. The Duke also fought at Vittoria on the same ground that had formerly been held by the Black Prince. Then at Waterloo, Wellington was on the very ground of one of Marlborough's engagements, although at that time Marlborough had the French position and the French had Wellington's. Stanhope, pp. 3-4.

Study as a source of military learning: A man does not see enough by himself and therefore the life of man is not enough to give universal experience. One has to add to one's knowledge from the stores of others "by *prizing the researches* of those who have gone before us and by taking as an example the military exploits and important events with which the *history of war* furnishes us." Henry, pp. 108-109. [HG italics]

Past campaigns: Marshal von Moltke wrote: "Whoever is well enough acquainted with the campaigns of Napoleon, and familiar enough with them to be able to recall at any moment, the details of his battles, and the movements that he ordered, has always in his hand the key to the movements proper to make under any given circumstance whatever." Henry, p. 12.

[The third reference under category 1(b)--McElwee, p. 268--was also coded for this category. (Ed.)]

Note that the opinions that were already expressed by Caesar concerning the forests of France and Germany still prevailed during the First World War and the Second World War. And before the Second World War when it was thought that the ability to attack through forests was very limited. Mysyrowicz, p. 204.

3. THEORETICAL-ANALYTICAL AND PLANNING VS EMPIRICAL EXPERIENCE

Learning to handle men: Wellington said: "A general is some time in learning how to put large bodies of troops in motion. I have often said if there were eight or ten thousand men in Hyde Park, it is not every general that would know how to get them out again." Stanhope, p. 271. (Compare here the experience of Machiavelli who wrote extensively on war but was unable to drill troops.)

[The tenth reference cited under category 2(b)--Henry, pp. 108-109--was also coded for this category. (Ed.)]

Rules vs requirements of the moment: Napoleon says: "*There is no natural order of battle.* Everything that one writes on that subject would be more harmful than useful." Napoleon, p. 233. [HG italics]

The need for experiment to aid history: Even Lt.-Col. Perré who felt that the experience of World War I in tanks was definitive and sufficient had, as a matter of fact, to indicate that since the allies had almost a complete monopoly of tanks and the Germans had only about 75 finally in 1918, *there was virtually nothing in the way of battles of tanks against tanks.* Thus, on this aspect of tank usage the *historical-experimental method was rather shaky.* Perré was forced to resign himself to the use of *reason and the experimentation of peacetime* which is always incomplete. Mysyrowicz, p. 29. [HG italics]

4. LEARNING IN PEACE AND WAR
5. LEARNING STRATEGIC LESSONS*
6. LEARNING TACTICAL LESSONS*
7. LEARNING TO MAKE AND USE WEAPONS
8. LEARNING MILITARY ADMINISTRATION AND ORGANIZATION (INCLUDING MAN-POWER POLICY)

Imitation of the general staff: "In the period round 1640... *the Swedish Army stood...in high repute...and it was on that model that the Great Elector may be presumed to have based himself in creating a so-called Quartermaster-General's Staff. The latter's function comprised...engineering services, . . . routes of march, . . . choice of camping sites and fortified positions.*" Goerlitz, p. 3. [HG italics]

9. LEARNING TO MANIPULATE
10. LEARNING THE WRONG LESSON

Technology and military affairs: 1866 for the first time represented a war in which battles depended on the *performance of new weapons* designed by men who would never have to use them and whose practical capabilities were unforeseeable. The situation has persisted ever since. Prior to 1866, *the armies of Europe had faced each other with weapons of roughly equal performance.* This is what makes 1866 from the technological standpoint a turning point in the history of warfare. McElwee, p. 129. [HG italics] (Gave weapons a misleading importance over organization, etc., in the minds of leaders.)

Effect of past experience: "The American military tradition has been primarily one of direct approach, favouring an attempt at *victory rather than attrition:* this is partly the consequence of the American Civil War when a strategy of attrition nearly brought about the defeat of the stronger adversary, the Union; *partly of American military strength.*" Buchan, p. 94. [HG italics]

Learning the wrong lesson: "Hitler liked to say that he would not repeat the three great errors of Napoleon. These were, according to the unanimous opinion of historians, his campaign

*The eighth reference cited in category 2(b)--Stanhope, p. 109--was also coded for these two categories. (Ed.)

in Egypt, his activity in getting himself stuck in Spain and the fact of having pursued the occupation of Moscow while neglecting the Russian army of the Ukraine. Now, Hitler lost the Mediterranean because he hesitated to invade Spain up to Gibraltar, then to occupy Egypt when there was still time, that is to say, after the conquest of Crete. Finally, he delayed marching on Moscow and preferred to head toward the Crimea and the Volga, thus dispersing his forces and lengthening beyond measure his communication lines. *For him the lessons of the past were a misfortune.*" Bouthoul, p. 162n. [HG italics]

The battle of Tsushima "was to remain for fighting admirals... an unattainable ideal. Neither the British public nor most historians [could forgive] Jellicoe for failing to reproduce at Jutland Togo's triumph in the Yellow Sea ten years before. Only Pearl Harbor, the destruction of the *Prince of Wales* off Malaya, and the...agony of the *Bismarck* could convince the theorists and the designers that they had for fifty years been backing the wrong horse. Tsushima, in fact, perpetuated as many illusions as Lissa had for an earlier generation; but with far more disastrous results." McElwee, p. 297.

"Much of the British official apprehension of 1939, . . . originated in the ugly incidents of 1917, with the fear that *mob action might frustrate any decision* to resist German demands. In Britain, steps had been taken by 1939 to attempt to control a rebellious population, and to greatly augment the police force if the indiscipline of 1917 repeated itself; in the actual event, for psychological reasons . . . no such measures had to be put to the test. The French government similarly *expressed fears of rebellion*, or defection . . ."

The *size of enemy air forces* has also *normally been over-estimated in peacetime*, without necessarily losing exaggerated hopes for one's own air forces.

Some of the factors that tended to make *tolerance greater than anticipated* was the fact that coming during the war when threats of invasion were very important tended to make one forget a little about the war from the air. Also, there was the supporting factor of reprisals. And also the satisfaction of being given gas masks, CD instructions, and various other civil defense measures. Further, Britain in 1940 was more or less prepared for the worst whereas Britain in 1914 probably was not. Quester, pp. 174-177. [HG italics]

[The first paragraph of the eighth reference cited under category 11--McElwee, pp. 321-322--was also coded for this category. (Ed.)]

11. FAILURE TO LEARN

From the Crimean War: Note that in the book by McElwee [*The Art of War*], it is clearly implied that the *Crimean War* taught the military and political leaders of Europe *very little*. This is directly contrary to the conclusion of another book on the Crimean War. McElwee states that "the Crimean War, though it was the first great struggle...between regular armies and navies of the three Great Powers and two lesser ones, [for some years] did little to correct the imbalance of this military inexperience." *Given the age of the principal leaders* in the field, the lessons learned were not of any great importance in the following period. The Russians were shocked by defeat into social and legal reform *but changed little in their military arrangements*. The almost total breakdown of British War Office administration, particularly on the medical side, compelled the British to reforms but they, too, were *slow to rethink their technical doctrine* or to remedy the shortcomings of their obsolescent equipment. Besides, the generals were given no time to digest any lessons--tactical or technical--to be learned from the Crimea.

In 1859, within three years of the Congress of Paris, the French and Italians were engaged in a major war against the Austrian empire. The Americans were locked in their Civil War. And three years later, Austria and Prussia extinguished the ambitions of the Danish monarchy. In 1866, Prussians and Austrians met at Königgrätz, a more decisive battle for the world's future than even Waterloo. By 1871, the high drama was over. Commanders had *only the experiences of Napoleonic campaigns fifty years before, rationalized and annotated by Clausewitz*. Their tools were still the tools of Napoleon and Wellington. McElwee, pp. 1-4. [HG italics]

McElwee points out that in the age of Moltke, the grand mobilization schemes and hypothetical campaigns remained in their pigeonholes. New ideas were dismissed with *skepticism*. There was *no time* and little disposition to digest the lessons of the Crimea. McElwee, p. 7. [HG italics]

Failure of foreign perceptions: Prussia with its land scattered from the Baltic to the Rhineland took the lead in the development of *railways* and laid a *pattern* for the other German states.

A final advantage which was largely overlooked by contemporary statesmen and generals was the possession of a *breech-loading* rifle as the standard weapon of Prussian infantry. The British began training their infantry to use the Minié rifle from 1851 on. But these rifles did not have the greatly increased rate of fire that was the decisive advantage of the breech-loader. The Prussians began experimenting with their Needle Gun in 1842 and started issuing it in 1848. But it was

not until the 1859 campaign in Italy that the Prussian high command was convinced of the overwhelming importance of firepower. By 1864 the whole of the army was equipped with a weapon which would fire at five times the rate of the muzzle-loader, at greater range and with greater accuracy. This gave Moltke an advantage in his opening campaigns though there was little tactical adjustment to meet the potentialities of the new weapon. Its importance was largely *unperceived outside Prussia*. McElwee, pp. 31-32. [HG italics]

Delayed perceptions: "The French...were far too late in perceiving that, while they needed indeed to connect Paris with Strasbourg, they had also to link cities like Marseilles, Bordeaux, and Lyons directly not only with Strasbourg, but with Metz, Châlons, Verdun, Belfort, and Nancy." McElwee, p. 118.

Failure to learn from 1864, Italy: It was not French strategic planning or incompetence of commanders, nor even numerical inferiority which gave the Germans such an advantage. It was the *chaos of French mobilization*. The regiments of the French army were not garrisoned in their principal recruiting areas. They were scattered in garrisons throughout the country, and an army to take the field had to be made up from units scattered all over France, which had seen neither one another nor their senior officers, nor their supporting arms, nor their services of supply. Nonetheless, the French had to mobilize more quickly than the Prussians if they were to have any hope of victory. To solve this problem, it was decided that mobilization and concentration should take place not successively but as a single operation. The results were deplorable. The movement of large bodies of men in every direction by *railways imperfectly subjected to military control* was very sloppy. Regiments had to go from their garrisons to concentration areas, reservists from home to regimental depots and on to their regiments. By the 6th of August, the twenty-third day of mobilization, only about half the reservists had reached their regiments and many of these lacked essential items of equipment. Howard, pp. 66-68. [HG italics]

Not learning lessons: The French learned to produce a new infantry weapon but failed to learn *from 1866 the need for new artillery*. "Some senior French officers saw in 1867 a demonstration of the new Krupp field gun, which the Belgians were buying...and brought back...reports of its superiority to anything they had in their own army. Krupp was prepared, and indeed anxious to sell them all they needed." But there was *distrust of steel guns* and besides expenditures on the new rifle had taken too much money. "So the French went into the war of 1870 with the guns of 1859..." McElwee, pp. 142-143. [HG italics]

Attempt to apply lessons, France 1870: The gains in armaments were not paralleled by similar gains in the field of discipline, training, organization and the use of railways. There had nonetheless been a commission set up to study such problems and its contents were revealed in an anonymous publication that was written by General Trochu. But this had very little effect other than to cause him to be set aside. Napoleon III was interested in *military reform and had urged a need for a general staff on the Prussian model, but here again very little success was achieved. The idea of a Prussian threat was not very seriously considered in France* and indeed in many liberal circles the French military establishment was viewed as a constant provocation to her peaceful neighbors. Howard, pp. 36-39. [HG italics]

Lessons from the Civil War ignored: In Germany as in France, there were solitary voices that cried in the wilderness. Baron von Freytag-Loringhoven also argued as Capt. Auger had in France that the war of the future would require field entrenchments and fortifications. But this heresy was *rejected by the General Staff* on the grounds that heavy howitzers and mortars developed since 1865 had greatly reduced the value of earthworks.*

Similarly, in Britain there was a voice--that of Lieutenant Colonel J. E. Edmonds, a Sapper. He was also a first-class military historian. In 1905 he published a two-volume history of the Civil War and strongly supported Henderson's suggestion that it forecast the shape of wars to come. But all this fell on deaf ears. McElwee, pp. 321-322. [HG italics]

Lessons from the American Civil War: Occurring when it did--the events in Europe of 1859 and 1866 and 1870 *distracted military attention from the Civil War.* "Yet in almost every... aspect [it] produced *novel situations* and novel solutions to... problems...which deserved close study by the General Staffs and the Admiralties" of Europe. "The *Admiralties* did.. after some years...finally study its lessons and apply them. The *generals* hardly paid any attention at all...until World War I when some of the more intelligent thinkers turned back...to find in the campaigns of Grant, and Lee, Stonewall Jackson and Sherman some methods...*less destructive* than those of their...predecessors. This neglect...was the more surprising because the American Civil War" was really war on a grand scale that conformed to the concept of Clausewitz of "the nation at war." McElwee, pp. 147-148. [HG italics]

* This paragraph was also coded for the preceding category 10--
"LEARNING THE WRONG LESSON," (Ed.)

Not learning lessons: The American generals--once the Civil War was over--"saw no reason to study...Moltke's achievements or their own shortcomings...*isolated within their own continent* for the next thirty years with only the Indian, Canadian, and Mexican frontiers to preoccupy them, they *relapsed into* that apathy which was to land...General Shafter in such difficulties at Tampa Bay at the end of the century." McElwee, p. 153. [HG italics]

Failure to learn from past war: "Certainly one of the most apparent sources of the appalling casualties suffered by all sides on the Western Front was the failure of the General Staffs to appreciate the effect on the standard field tactics laid down in their military manuals of the *heavy artillery* barrage, *barbed wire* and the *machine-gun*. The Russo-Japanese war had afforded clear evidence of all three of these new phenomena. But the lessons had simply *not been studied* or, where studied, they *had not been absorbed*." Watt, p. 60. [HG italics]

Not learning lessons: "An intelligent general could have gleaned all the essential ideas--Surprise, Deception, Speed of Movement, and continuous Bewilderment of the enemy--from a comparative study of Marlborough's Blenheim campaign and his appallingly costly frontal assault, undertaken for purely political reasons, at Malplaquet. What is surprising is that for more than three-quarters of a century hardly any of them did."

"It was not until 1928 that Sherman's strategy of the '*indirect approach*' was thoroughly analyzed and reduced to its first principles by Captain B. H. Liddell Hart; and they were not to be put into practice...until the battle of Alamein." McElwee, p. 164. [HG italics]

12. FACTORS AFFECTING LEARNING AND NON-LEARNING (SUMMARY)

Perception of the enemy: After World War I in France the fundamental postulate of French strategic thinking was that war that took place would be with Germany. This however did not mean that there were concrete studies of Germany or German military activity but, rather, abstract studies of war itself. Although the war was assumed to be the same as that of 1914-1918 with some modifications, the conception that it would be a total war and a war of attrition and long duration did not lead to the recognition that, in the event of the lines being ruptured, it would lead as well to partisan warfare or a war of guerrillas. In order to escape from the conception in a total war of partisan warfare it was necessary and sufficient to postulate the impossibility of piercing defensive lines. Myszorowicz, pp. 62-65.

(a) Economic costs

French response to German air development: In 1936, the French technical people experienced a shock concerning the speed and firepower of the new *Heinkel and Messerschmidt* which reduced to practically nothing the whole French Douhet program. It was clear that in case of conflict with Germany the latter would possess two advantages. One, in attack, for its planes were ultra-rapid and, utilized as escorts for bombers, were much more effective than the multi-place French planes. Secondly, in defense, they were more effective because they were interceptors without rival.

Faced with this between 1936 and 1940, the French were forced to follow the German lead. *The Douhet Doctrine was virtually repudiated* and France aligned itself with the conceptions current among the other great powers. The French aeronautical industry, faced with the urgent requirements of national defense, refused to divide part of the cake with foreign companies, especially American, although they really could not effect the orders in the time required. However, they argued that it was necessary to keep the orders in France itself instead of opening the market to foreign competition and, as a result, the orders had to be filled with techniques that were out of date and almost artisan-like. Mysyrowicz, p. 190. [HG italics]

[The sixth reference under category 11--McElwee, pp. 142-143--was also coded for this category. (Ed.)]

(b) Discouraged by unpredictability

Planning and execution: Both in the war against the Austrians in 1866 and again in 1870, Moltke's plans were affected by the *insubordination*, in effect, of his commanders. Thus, in 1866, the Crown Prince and Prince Frederick Charles did not operate as they had been told. Similarly, in 1870, General von Steinmetz turned out to be a disaster because Moltke could do nothing with him and his insubordination wrecked Moltke's plans, caused constant inconvenience and at least once almost brought the whole German army to catastrophe. Howard, pp. 28, 61. [HG italics]

(c) Drama attracts attention to wrong conclusion*

Great military reversals: Prior to the French defeat in 1870, "there was little precedent in the history of Europe for so *dramatic* a reversal...one must go back...to the campaign of Breitenfeld in 1631 when within a few weeks Gustavus Adolphus broke the supremacy of the Catholic powers..." Howard, p. 1. [HG italics]

* A parenthetic phrase "(von Bulow charge)" indicates that the author intended to include another example here. (Ed.)

(d) Winning the battle or war despite terrible errors makes errors invisible or easily forgotten

Perception of success as a basis for Conservatism: General Blücher at Waterloo turned this battle into a decisive victory and silenced all Prussian self-criticism. "*The shortcomings of the column as an exclusive method of attack* passed unnoticed. Clausewitz and his disciples, like their master Napoleon, were predominantly concerned with *grand strategy and the manoeuvring of large formations*. They, too, underestimated the importance of sub-unit tactics, so the system evolved by Carnot and the early revolutionary generals in France...became as deeply embedded in the Prussian army as in the French... Only the horrifying casualties inflicted by the new French rifle in the opening battles of the war of 1870 forced [Moltke] to appreciate the limitations of shock tactics...and to modify the doctrine of the Prussian army in *mid-campaign*." McElwee, p. 30. [HG italics]

[The fourth reference cited under category 10--McElwee, p. 297-- was also coded for this category. (Ed.)]

(di) Accidental success (Lissa) or defeat

(e) Underlying base (e.g., personnel) still inadequate

Transportation inadequate: "The movement of an army by railway is not...any business for amateurs. The staff-officers of the Imperial army had shown themselves incompetent enough the previous summer, and it was not to be expected that Aurelle's hastily assembled staff and the scratch team of civilians at the Ministry of War would do any better. Freycinet expected the movement to be completed within thirty-six hours. In fact it took three days, and all the mistakes were committed which had proved so disastrous the previous July. Civil traffic still ran uninterrupted. The troops spent hours at railway stations because of miscalculation of the time it would take them to entrain. Time-tables were disrupted and there were not facilities at stations for the reception of masses of men and stores." Howard, pp. 294-295.

(f) Past experience inhibits learning (conservatism)

The French Army post-1850: A Marquis complained that "of ten new captains posted to his division...in 1841 only two knew how to spell, and in 1870 the Germans were to be astounded at the *illiteracy of the officers who fell into their hands*." These men usually did not attain high ranks. They remained content as regimental officers. The campaigns of the army had been largely in Africa and there they were conducted by small columns whose leaders required not so much expertise as courage and dash. There was no need for scientific study of military movements or skillful combination of the three arms in battle. There was no need for elaborate supply organization since columns carried

all that was needed with them either on pack horses or on their own backs. *These habits were imported into European campaigns.* The French soldiers were to go into action in 1870 carrying about 70 pounds of equipment and several days' supplies. They, naturally, dumped this before battle and if the battle was lost never saw them again. Howard, pp. 16-17. [HG italics]

(g) Passage of time makes one forget lesson

[The tenth reference cited under category 11--McElwee, p. 153--was also coded for this category. (Ed.)]

(h) Too costly not to

Visibility and Concealment: "There was a tendency to regard *the ability to stand upright under fire as a virtue* to be encouraged, but it is noteworthy that [as fire became heavier and more accurate] it was Wellington's practice to withdraw his infantry behind a crest during a preliminary bombardment to avoid unnecessary casualties before the actual assault. At that time it was also customary to make infantry lie down while they were under artillery fire and unable to use their weapons."* Hughes, p. 61. [HG italics]

[The sixth reference cited under category 11--McElwee, pp. 142-143--was also coded for this category. (Ed.)]

(i) Misleading books on past wars/battles

(j) Middle range and professionals cannot influence "non-students" in the War Office

(k) Discouraged by some initial difficulties (e.g., breech-loading guns)

(l) Anti-refinement: Good old things more reliable

Military conservatism: When Krupp designed a new field piece using Nobel's smokeless powder, the *German generals wouldn't look at them. But talking to the Kaiser, Krupp managed to so impress him that the Kaiser called immediately for his general staff.* Manchester, pp. 240-241. [HG italics]

[The sixth reference cited under category 11--McElwee, pp. 142-143--was also coded for this category. (Ed.)]

(m) Social rank correlates with certain weapons (lances-cavalry, sword, revolver)

(n) Obsessed with textbook rules (e.g., hold on to reserves)

Textbook soldiers: In the account of the battle of Ching-hsing in 205 B.C., the attacking general is said to have planned his strategy on the basis of the fact that the defending general

*This reference was also coded for category 2(a)--"Learning from one's own errors and experience." (Ed.)

was "a book-soldier [who] would have established school-solution entrenchments, with hills behind him and to his right and water on the left and in front." Kierman, p. 58.

(o) [There was no category "0" in the code. (Ed.)]

(p) Centuries of tradition

(q) Repetition required

(r) Desire for speedy victory

(s) Technical analysis of experience

[The eighth reference cited under category 11--McElwee, pp. 321-322--was also coded for this category (Ed.)]

(t) Moral requirements

(u) Good examples provided by enemy (e.g., Romans); success in battle

(v) Severe shock of defeat

[The fourth reference cited under category 2(a)--Thomson, p. 226--was also coded for this category. (Ed.)]

[The last sentence of the reference cited under category 12(d)--McElwee, p. 30--was also coded for this category. (Ed.)]

(w) Lessons get outdated by time, but still adhered to

Tanks, emphasis on the first use: Mysyrowicz points out that most of the articles by Lt.-Col. Perré deal with the first appearance of the tanks or the first appearance in some particular circumstance. Mysyrowicz then makes what might well be a very penetrating remark. He thinks that this cult of origin is something more than a *mere interest of the historian* but that by *emphasizing the first battles it is possible to somehow remove the tank into the period when time stood still*, whereas if he insisted on discussing also the last battles of World War I, he might have found himself gradually seeing variations developing and therefore be inevitably led to consider transformation in tank tactics and strategy, and therefore led toward an extrapolation into a future which, in fact, he wanted to avoid since he felt that the early days of tank usage sufficed for all time. Mysyrowicz, pp. 29-30.
[HG italics]

(x) Range of experience drawn on

(y) Concern with distant future gives greater flexibility (e.g., UK after World War I)

(z) (Personally) disagreeable (e.g., noise of tanks, also alerts enemy)

- (aa) Political considerations (e.g., cavalry--farmers)
- (bb) No wars to test ideas and weapons realistically
- (cc) Age of leaders
[The first reference cited under category 11--McElwee, pp. 1-4--was also coded for this category. (Ed.)]
- (dd) Technical changes forced on one (e.g., navies)
- (ee) Weapons easier to imitate than good organization
- (ff) Different types of war--earlier experience not applicable
- (gg) Experience, lessons not studied
[The next to the last reference cited under category 11--Watt, p. 60--was also coded for this category. (Ed.)]
- (hh) Not study the concrete enemy (e.g., France abstract from Germany)
- (ii) Causes of defeat and victory very complex--correct lessons difficult to draw.

Appendix C

ADDITIONAL NOTES DESIGNATED BY THE AUTHOR AS RELEVANTTO CHAPTER 3

1. Clausewitz thought of strategy as a means of fighting total war and winning battles. But "strategy comes into play in any contest of opposing wills *even if not a shot is fired* . . . This is the true meaning of what the British call 'grand strategy,' the French 'total strategy,' or *la stratégie de paix/guerre*, and the Americans 'national strategy' . . . [they] are to be distinguished from 'operational strategy,' the broad direction of military forces in war itself." Buchan, pp. 81-82. [HG italics]

2. "Polybus said the 'Greek states in early times did not seek the advantages of secrecy and treachery' but this does not entirely reflect the reality of interstate relations; yet it is true that secrecy was not likely to extend beyond the tactical level of a sudden raid or spoiling attack. Pericles even boasts in his Funeral Oration that 'our city is thrown open to the world, and we never expel a foreigner or prevent him from seeing or learning anything of which the secret if revealed to an enemy might profit him.'" Thucydides (2.38), cited by Starr, p. 40. [HG italics]

"The Spartan government . . . did not operate in quite such a limelight. During the Plataean campaign it kept the Athenian envoys dancing in anxious doubt whether its army would march, and informed them only after the troops had actually left . . ."

Starr, p. 40.

3. When a proposal was made to erect a shrine to the memory of Wu-ti, in 72 B.C., the criticism was made as follows: "Although Wu-ti is credited with . . . repelling the four barbarian tribes, widening territory and extending borders, *large numbers of soldiers were killed*; the material resources of the people were consumed, with unlimited extravagance and . . . wastage. Populations were displaced, with the *dead amounting to over half*; swarms of locusts arose and several thousand *li* of land were scorched. There were occasions of cannibalism . . . There were no generous bounties to the people, and it is not fitting to found shrines . . ."

Loewe, p. 104. [HG italics]

- 4. Loewe summarizes the number of figures given in the historical records which suggests very heavy rates of loss. Thus, we are told that of 140,000 horses that set out in one campaign, less than 30,000 re-entered China. One campaign was said to have had casualties as high as 80-90 percent. "In 135 B.C., the king of Huai-nan warned the central government that campaigning in the south would involve a sickness or death rate of 20-30 percent."

Loewe, p. 95. [HG italics]

5. Before the battle of Gaugamela, Parmenio advised Alexander to attack at night when the Persians would not be expecting it. Alexander replied that he would not *steal victory like a thief*, but must defeat his enemies *openly and honestly*. However, Arrian seems to think that the more sensible reason was that *night fighting is a tricky business and the outcome is too unpredictable*. Besides, under cover of darkness, a defeat of the Persians would save Darius the necessity of admitting an inferiority either in himself or in his men whilst if they suffered a reverse they (that is, the Greeks) would be a defeated army in an unfamiliar country among enemies thoroughly at home and the prisoners of war might well attack them at night.

The translator notes that Alexander knew the propaganda value of defeating the Persian army *on even terms*. "Darius could claim at Issus he had suffered from lack of room. On this occasion, Alexander did not intend that he should have any excuse." Arrian (3.9, 10), p. 163. [HG italics]

6. " . . . paraphrasing Sun Tzu, Mao has said, 'It is often possible by adopting all kinds of *measures of deception* to drive the enemy into the plight of making erroneous judgements and taking erroneous actions, thus depriving him of his superiority and initiative.'" Mao, *On the Protracted War*, p. 98, cited in Sun Tzu, p. 53. [HG italics]
7. "Our past invulnerability has fostered the illusion that there are 'purely' military answers to the problems of our security and that policy ends where strategy begins." Kissinger, p. 20. [HG italics]
8. *Confusion of political and military*: "This attitude was well expressed when General Marshall said that he would be reluctant to risk American lives for purely political objectives." Kissinger, p. 40.
9. " . . . much has been made of the difference between 'compellence' and 'deterrence' [but] they are generally analogous. Both belong to the realm of coercive suasion . . . Both modes . . . are subject to the same technical and perceptive requirements; both may be tacit or overt; both may be associated with either private or public warnings; and both are subject to the same psychopolitical uncertainties." Luttwak, 1974, p. 25.
10. "Because the Soviet rulers pride themselves on their ability to 'see through' our protestations of peaceful intentions, our only possibility for affecting their actions resides in the possession of *superior force*." Kissinger, p. 6. [HG italics]
11. Distinguish between (1) military forces used without fighting for political purposes; and
(2) military forces used without fighting for military purposes.

12. "Behind Spartan diplomacy could be detected the *prestige* of the Spartan army . . . that army was so precious an instrument that one aim of Spartan diplomacy was *to avoid using it*. Strategy and diplomacy went hand in hand during the later stages of the Corinthian War as each side sought to reach a *military position* which would *give diplomats the best chance of winning the peace without generals' having to win the war*." Adcock, p. 72.
[HG italics]

13. Note that the money paid by Francis I to the Swiss in order to win their assistance in effect amounted to winning victories by simply spending money rather than fighting battles. Gilliard, p. 36.

14. *Sherman's Atlanta campaign was the greatest feat of arms of the Civil War. His contemporaries completely overlooked the novel ideas, such as the oblique approach. "In essence the strategy of the indirect approach was a reversion to . . . pre-Napoleonic [practices]: to the wars of manoeuvre of the seventeenth and eighteenth centuries. Turenne's proudest moments had been when he had succeeded in overrunning a province without letting the enemy bring him to battle; and Frederick the Great . . . preferred to prise an enemy out of a position without heavy fighting by threatening his flanks and communications. Only when he either had no time or no room to manoeuvre did he . . . resort to . . . battle. Napoleon, [on the other hand], . . . short of time and . . . money, aimed at bringing his enemy to battle quickly and on the largest possible scale . . . Thanks to Clausewitz, the daydream of victories like Austerlitz and Sedan [haunted] the minds of European generals . . . long after the age of Moltke had ended. Three-quarters of a century were to elapse before the . . . ideas and methods of the Civil War commanders came into their own . . ."* McElwee, pp. 151-152.
[HG italics]

15. *Warfare in the spring and autumn: "The armies of . . . ancient China were private in the sense that the feudal levies of Europe were private . . . As a peasant was far less valuable than an ox or a horse, his welfare was not . . . of particular concern . . . Terrain suitable for chariots dictated and restricted the form of battle . . . [These] battles . . . were primitive mêlées which usually produced no decisive results . . . When the auspicious moment selected by the soothsayers arrived, the entire array, whose roars shook the heavens, threw itself precipitately upon the enemy."* Sun Tzu, pp. 32-33. [HG italics]

16. Wellington wrote in a letter: "The allies do not appear to me to have reflected that everything was *lost in Europe by the loss of one or two great battles* . . . They must not expect battles of Leipsic every day; and that which experience shows them is, that they ought, above all things, to avoid any great military disaster." Letter of January 10, 1814, in Wragg, p. 223.
[HG italics]

17. *Naval strategy goals--Germany*: At first, limited conflicts; then, big battle; and finally in the 90s the concept of a decisive battle in which all ships took part and total annihilation of all ships of the enemy was the goal. Place of planned battle further and further from the coast, and finally in the open sea. Berghahn, p. 50.
18. Holy wars have little opportunity to ameliorate the degree of killing and suffering since the enemy is considered to be one whose death is desired by God. Consequently, in wars of religion the opportunity to come to a peaceful conclusion is almost entirely excluded. Hentig, p. 22.
19. Hitler "distrusted his generals too. Like all professional soldiers, *they disliked the prospect of great wars*. Military parades, quick victories in limited campaigns--these were part of their business . . ." Trevor-Roper, p. xv. [HG italics]
20. Byzantine war theory as exemplified in the military textbooks of the Emperor Maurice and of Leo the Wise showed that "battles were avoided if the odds were considered too high; cunning was considered a part of good generalship, and useless sacrifice of lives was deplored. Above all, war was considered practical and not heroic." Brodie, p. 29.

In 1653, Turenne, facing the Spaniards managed to have time to entrench. When the enemy in the morning found that *Turenne was entrenched*, they "did not think it well to risk the danger of a battle, and struck their camp." Henry, p. 69. [HG italics]
21. Perhaps in the pre-nineteenth century, when the supreme leader led his own troops on the battlefield, there was greater incentive to avoid battles.
22. "Towards the end of the seventeenth century, the armed confrontation took on a different aspect from what it had been at its beginning during the Thirty Years War . . . The inefficiency of firearms, the limitations of artillery still gave an important role to the fortress. The Venetians resisted two years in Candie and the Turks lost more than 100,000 men in trying to take it. . . Maurice de Saxe expressed exactly the ideas that were current when he wrote that *he did not believe that a general ought to commit himself to battle especially at the beginning of a conflict and that he was even convinced that if a general was clever he would know how to avoid having to fight in the course of his entire career* . . . Commenting on military operations during the reign of Louis XV, Lazare Carnot wrote . . . that 'military schools of the last century taught the art of *honorably surrendering rather than that of efficiently defending a fortress*.' Artillery was unable either to guarantee defense or favor the attack. Vauban gave up frontal actions and substituted sapping

and mining. . . . Faced with the methods of the engineer and the work of the sapper, it was generally conceded that one could surrender. . . . Since war was taking a new form that did not follow the current rules, the people who were besieged found in this an excuse to lay down their arms and surrender. While they were ready to die in combat, they felt they could do nothing against these engineering works and that *military honor permitted surrender.*"

"With the French Revolution, this mode of warfare changed." Certainly at the battle of Bailen the French capitulation of two divisions together with the fortress was treated by Napoleon as cowardice and imbecility.

"Having obtained considerable success in attacking enemy fortresses, Vauban applied the lessons that he had drawn from this to the construction of about 100 fortresses that constituted, one thought for some two centuries, a defensive system that was practically impregnable. . . . Napoleon wrote that 'fortresses are useful both for defensive and offensive warfare.'" Gallois, pp. xiii-xv. [HG italics]

23. In the eighteenth century "military operations were on a moderate scale, [and] *the aims of war were equally restricted*. Wars were waged for the possession of a fortress or a province. *The merciless life and death struggle between whole peoples*, [marginal comment by HG: "Albigensian crusade!" (Ed.)] let alone *the war of ideologies, had not yet been born* . . . Count Wilhelm von Schaumburg-Lippe, one of the most important military historians of the time, says in his [Memoirs on Defensive War] that the art of war should be directed to the avoidance of war, or at any rate towards the mitigation of its evils."

Typical of this sort of war was the war of the Bavarian succession "fought by Frederick the Great in 1778 to prevent the union of Austria and Bavaria . . . the king and his brother . . . marched . . . into Bohemia, while the Austrians took up an entrenched position . . . yet a battle was risked by neither [side], and the issue was settled by diplomacy."

"The notion of a war of extermination had only made its appearance in the Turkish wars . . . waged against the Habsburgs in the Balkans, . . . [and] these wars took place in an area . . . outside the consciousness of eighteenth century Europe." Goerlitz, pp. 7-8. [HG italics]

24. Napoleon points out that "in the campaign of 1793, in the Maritime Alps, the French army under General Brunet, did all that was possible to capture by a front attack the camp at Ranss and Fourches . . . their . . . efforts . . . destroy[ed] the picked Grenadiers of the republican army" and increased the courage of

the enemy. Napoleon, by maneuvers, forced the enemy to evacuate these positions without fighting in 1796, thus showing the strength of his principles and the genius of his leadership. Henry, pp. 65-66.

25. Part of the incentive to reduce casualties and battles in the eighteenth century was the expense of training and maintaining highly skilled professional armies.

When the French Revolution introduced mass armies of recruits, manpower was cheaper and wars were fought "to the death." The idea of Napoleon was to annihilate the enemy. Goerlitz, pp. 6-8, 13, 23.

26. Gneisenau searched for "a decision with the object of annihilating the enemy force, all available means being used to this end." He is "the spiritual father of the battle of encirclement, an idea which comes out even more strongly in the General Staff's strategic thought . . . in the Cannae conception of Schlieffen." Goerlitz, p. 42. [HG italics]
27. At Austerlitz the French had 65,000 men united in the hand of the Emperor like a battalion in the hand of a good major, ready for everything, even to *withdraw if the enemy behaved well*, for the Emperor knew that the Russian army was numerous and brave and he *did not want a victory that was expensive or costly*. Napoleon, p. 321. Note that it is usually said that the Napoleonic age introduced the war of annihilation--but not at any price. [HG italics]
28. After 1859, Napoleon III said that he hated war. "His publicly stated reason was that it was '*too uncertain*;' but he was also deeply shocked at Magenta and Solferino by his . . . inability to control . . . [the] battle." Further, "he could no longer ignore *the stench of war* under an Italian midsummer sun, the appalling casualties . . . the sufferings of the wounded . . . so frightful . . . that they inspired the foundation of the Red Cross." McElwee, p. 10. Note this reaction that has its counterpart in Korea and other areas for persons who had never previously witnessed the disasters of war. [HG italics]
29. Vercingetorix told his men that he "would not tempt fortune by fighting a pitched battle. With his great cavalry strength it would be easy to prevent the Romans from getting corn and forage. 'All you have to do,' he concluded, 'is to destroy your corn crops without hesitation and burn your granaries.'" Caesar (7.54-67), p. 217. [HG italics]

Compare Vercingetorix and Wellington avoiding battle because of *likely* defeat vs. avoiding battle because of *possible* defeat (Louis XI) vs. avoiding battle because of cost of manpower.

30. Military resources as a means of avoiding the necessity to fight:
- reputation
 - leadership
 - weapons, etc.
31. War is costly and the result of battles unpredictable. Those who are most sensitive to these costs have, one imagines, a strong incentive to substitute cunning for force and to fortify it with guile.
32. The good general *"does not contend against powerful combinations nor does he foster the power of other states. He relies for the attainment of his aims on his ability to overawe his opponents."* Sun Tzu, p. 138. [HG italics]
33. Louis XI wished to defeat the Duke of Burgundy *without the cost of military action*. He thus attempted to turn the Swiss confederacy against Burgundy and by means of his gold, the *cleverness of his diplomats* and the influence that he personally exercised over various leaders he successfully achieved this. Although, to be sure, the possible danger that Burgundy represented for Berne also helped. But the task was not easy since the Dukes of Burgundy were neighbors of the Swiss and had furnished Berne and its western allies with the salt that was indispensable for them. Their relations with the Swiss confederacy had not been bad until then and it was, therefore, not easy for Louis XI to break these traditional relationships. Gilliard, p. 29. [HG italics]
34. With the growth of industrialization in Europe, many people thought that wars would have such costly consequences they would therefore be avoided. They also seemed to involve total strategies that would affect the civilian population as much as soldiers. Nuclear armaments increase these perceptions even more.
35. [On another occasion, Hitler, certain of winning, wanted to fight. (Ed.)] Hitler, according to some, had not been at all appeased by Chamberlain. "'That Kerl,' Schact had heard him say to his S.S. bodyguards, 'has spoiled my entry into Prague!' The Führer had really wanted war. He was convinced his troops could overwhelm Czechoslovakia in a week. Gustav knew better; the old Koch and Kienzle team had expressed great professional respect for the Skoda equipment carried by the thirty-five Czech divisions. In dismay he stammered to Bülow, 'I--I don't understand the Führer at all! He has just signed a wonderful agreement. Why is he being so bitchy (nörglerisch)?'" Manchester, pp. 455-456.
36. The invasion of Denmark succeeded so well that more than sixteen thousand square miles of territory were gained by Germany at the cost of 20 killed and wounded in the German forces. Mason, p. 314.

37. "The railroad multiplied tenfold the speed at which troops could be moved: its skillful use in staving off the defeat of the Confederacy for several years originally suggested that it favored the defensive until Germany, in 1870, proved the opposite . . . the railway also enabled governments to base . . . *deterrence* and the management of *crises* on a much more rapid mobilization of armed forces than had been possible before, a change which was *successful in averting several war situations at the very beginning of the century*, but carried . . . [a] danger of subordinating diplomatic . . . bargaining to a rigid timetable of mobilization, with disastrous results in 1914 . . . the telegraph also enabled countries to handle and deploy large forces at greater speed. The application of steam to naval power had a more equivocal effect," because the increase of speed was offset by mines, torpedos and submarines. Buchan, pp. 101-102. [HG italics] [The author had a "?" in the margin opposite "a change which was successful in averting several war situations at the very beginning of the century . . ." (Ed.)]

38. When Alexander was heading toward Maracanda to attack the Spitamenes who had almost completely destroyed a Macedonian garrison, Alexander covered the *185 miles in about three days*. When his enemy heard this report *they abandoned the town* and fled. Arrian (4.7), p. 211. [HG italics]

Alexander's rapid march against the satrap of Aria took the satrap so completely by surprise that he fled as soon as he heard that Alexander was coming. Arrian (3.25), p. 190.

39. Washington took 15 days to march 200 miles from the Hudson to the Chesapeake; in 1805, Napoleon covered 375 miles from the Channel Coast to the Rhine in 26 days; Sherman took 50 days to go from Savannah to Goldsboro - 425 miles; Patton took 38 days to go 400 miles across France in 1944. Van Creveld, p. 54n.

40. Horace Walpole in a letter refers to an incident in which a young British officer was sent with a party of eight men to reconnoiter a party of 50 of the enemy appearing on a hill. "Being stopped by a brook, he prepared to leap it; an old sergeant dissuaded him, from the inequality of numbers. 'Oh!' said the boy, 'I will tell you what; our profession is bred up to so much regularity that any novelty terrifies them--with our light English horses we will leap the stream; and I'll be damned if they don't run.' He did so--and they did so." Letter of September 9, 1758, in Wragg, pp. 109-110.

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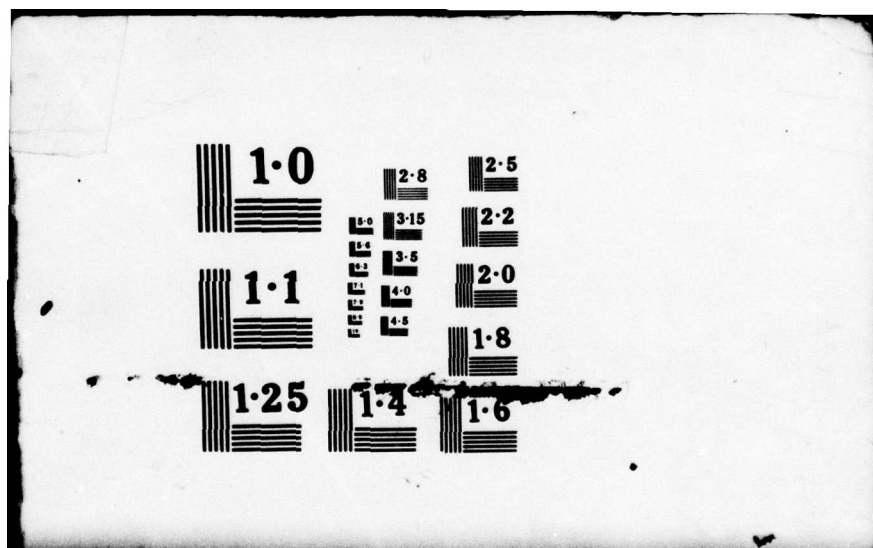
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